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ABSTRACT

In 1972, the National Commission on Libraries and Information Science (NCLIS) identified experts to study and report on the information needs of selected groups within the United States population: six occupational and professional groups, various age groups, women, the handicapped, the isolated, and ethnic groups--mainly the Mexican American community. The groups were analyzed in terms of characteristics, rationale for service, needs for library and information services, inadequacies in existing services, and strategies for change. The reports of the 16 experts were presented at the NCLIS User Conference at the University of Denver, Colorado, in May, 1973. The second day of the conference was devoted to three work groups who considered various aspects of the information needs problem. A needs-description matrix was formulated to provide a common format, through which the needs of various client groups could be compared. This report presents the conference papers, the proceedings of the working groups, an analysis of the needs-matrix, and the conference summary and implications report. (SL)

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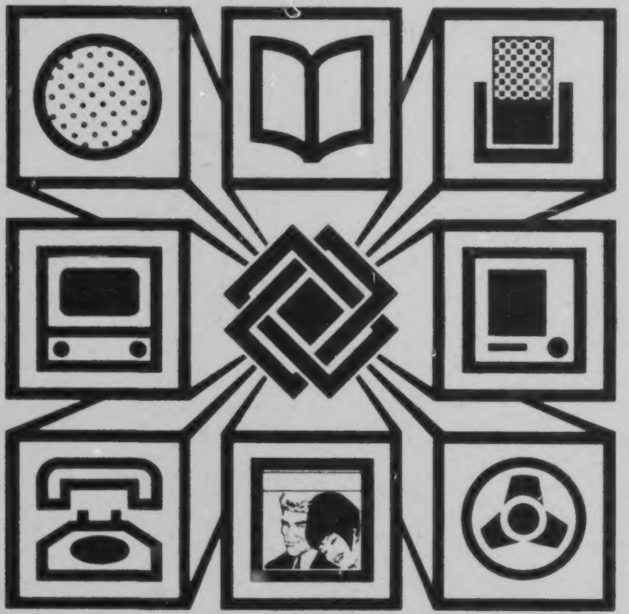
Library and Information Service Needs of the Nation



Proceedings of a Conference on the
Needs of Occupational, Ethnic, and
other Groups in the United States

IR 001 568

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Library and Information Service Needs of the Nation

Proceedings of a Conference on the Needs of Occupational, Ethnic, and other Groups in the United States

The views and opinions expressed in these Proceedings are those of the authors and do not necessarily reflect official position or policy of the National Commission on Libraries and Information Science and no official endorsement of these materials should be inferred.

The National Commission on Libraries and Information Science acknowledges the work of Dr. Carlos A. Cuadra, NCLIS Commissioner, and of Dr. Marcia J. Bates in synthesizing, evaluating and editing this manuscript for publication.

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Foreword

As the world's first postindustrial society, in which information and knowledge resources – not industry – will be the chief source of capital and wealth, the United States faces a number of technical, financial, and jurisdictional problems. The challenge – and it is a difficult one – is to define and develop the means by which the new kind of wealth can be used most effectively and shared equitably, both within our borders and with other countries. This book describes a conference sponsored by the National Commission on Libraries and Information Science (NCLIS) that is intended to help meet this challenge.

NCLIS, a permanent and independent agency within the executive branch, is charged with primary responsibility for developing and recommending overall plans for library and information services adequate to meet the needs of the people of the United States. The material in this book reflects some important first steps toward defining the needs of many special constituencies in a way that will support their fulfillment through systematic planning at local, State, regional, and National levels.

In May 1973, a small invitational working conference was held in Denver, Colo., to provide a forum for the discussion and review of available information on the library and information service needs of a number of occupational, ethnic, and other groups in the United States. Preconference position papers commissioned by NCLIS, individual user needs papers prepared for the conference by the participants, and an analysis of the implications of the conference, together comprise the substance of this book.

Meeting the challenge of providing effective, efficient, and equitable information services in a postindustrial society is a complex and demanding task and will not be achieved quickly or easily. This book does not purport to provide any final answers to all the questions concerning our society's needs for library and information services. It does, however, provide several useful starting points toward those answers. It should also provide a stimulus for the professionals in the library and information service community, whose experience, insights, and creativity need to be applied, in a concerted way, to the dual tasks of understanding and fulfilling the Nation's present and future information needs. NCLIS itself is already drawing extensively on the contents of this book, in the process of elaborating many of the precepts contained in its national program effort.

I wish to express my thanks to a number of persons who contributed to the success of the Denver User Needs Conference. Chief among them are the individuals who developed the user needs descriptions and participated in their subsequent review and analysis, during and after the conference. They include Donald V. Black, Estelle Brodman, Genevieve M. Casey, Vivian Cazayoux, Bernard F. Downey, Diane G. Farrell, Robert J. Frist, David Hamilton, Ann P. Hayes, Harris C. McClaskey, Edward B. Miller, Regina Minudri, William Paisley, Edwin B. Parker, Ted Slate, F. Vinton Smith, Jr., and Manuel E. Velez.

Appreciation is also due to my colleagues on the NCLIS User Needs Committee, Commissioners Joseph Becker and Al Zipf, and to Commissioner Louis Lerner, who helped in the planning of the Denver conference and who, with Messrs. Becker and Zipf, gave valuable criticisms and suggestions on the material in this book. All of us were ably assisted by the NCLIS staff—Charles Stevens, Rod Swartz, and Mary Alice Hedge Reszetar—who made all of the arrangements for the conference and made significant substantive contributions to the discussions, as well. Mr. Swartz provided special assistance in the selection and invitation of the participants and in the preparation of the conference material for publication. Excellent editorial support for this book was provided by a consultant, Ann W. Luke.

Special recognition should be given to Marcia J. Bates, who, in addition to her two papers in this book relating to user needs and to requirements for public information services in the next decade, was responsible for much of the analysis and interpretation of the Denver conference material. I am very grateful for her valuable contributions to the conference, this book, and the information public, whom we are all trying to serve.

Carlos A. Cuadra,
Santa Monica, 1974.

LIBRARY AND INFORMATION SERVICE NEEDS OF THE NATION:

Proceedings of a Conference on the Needs of Occupational, Ethnic, and other Groups in the United States

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CHAPTER 1

Introduction

It is commonplace these days to say that library and information services must be attuned to the needs of the people. It is also commonplace to say that these information needs are not well understood and that we must develop greater understanding of them, if we are to fulfill them.

Aside from studies of scientific and technical information use, there has been a dearth of serious, solid effort to identify and articulate user needs. Why is this so? One reason, perhaps, is that needs for information or for the kinds of services that libraries and information centers provide are inherently elusive – difficult to discover and express. Unlike the need for food, which is biologically determined, insistent, and for the most part independent of social or economic context, the need for library and information services is very much a function of one's social context and is created in part by the capacity of organizations to fulfill it. The availability of information does not necessarily fulfill the need for information; it may, in turn, create new needs for more information.

A second possible reason for the lack of solid information on the needs of people is that they can be so easily confused with the needs of the institutions intended to serve them. Searches of the literature on needs for library and information services turn up relatively few publications oriented to user needs, as such. They turn up many more that are oriented to the needs of libraries and information centers as institutions. This is not to say that either the authors of the published papers, or the institutions that serve information users, are insensitive to needs. It does suggest, however, that it is easier to be explicit about what an institution needs than about what users and potential users need. Being explicit about the needs of a given user population requires continuous, systematic, and sensitive contact with that user population. Most information institutions do not have the resources, or the determination, to achieve that kind of contact.

I. Why Study User Needs?

The National Commission on Libraries and Information Science decided, in June 1972, to begin a concerted effort to expand our understanding of needs for library and information service, for several reasons.

The first is that it is a sensible step in planning systems. While the libraries and information centers of the country do not constitute a system in the formal sense, they do in a practical sense, and it takes only a glance at the explosive development of library consortia and networks to realize that we are moving toward an era in which there will be more closely articulated mechanisms for transferring information from the generators of information to its intended users. To develop such mechanisms—whether or not we wish to call them a "system"—very careful planning must be done, and there must be adequate definition of the library and information services that ought to be provided to our citizens.

The other reason for developing an understanding of user needs is that the language of the act that created the Commission requires it. That act says that the Commission shall:

> …conduct studies, surveys, and analysis of the library and informational needs of the Nation, including the special library and informational needs of rural areas and of economically, socially, or culturally deprived persons, and the means by which these needs may be met through information centers, through the libraries of elementary and secondary schools and institutions of higher education, and through public, research, special, and other types of libraries.

There is perhaps a third reason for focusing attention on needs: to help libraries to compete more effectively for financial support. The Federal Government, which has in the past provided substantial direct support to public and other libraries, has taken the position that the provision of library and information service is a matter for State and local government. While some States and communities have responded to this position by providing increased support to their libraries, others have not. In at least some cases, this may be because the library and information service needs in those communities have not been fully understood or properly articulated.

Although the reasons for examining user needs are not hard to state, defining and articulating these needs is a deceptively difficult task. The exploratory work of the Commission represents only a very small start. Eventually we must have a continuing system of appraisal—what Paisley[*] calls a "sensing network"—through which the information-providing institutions of the Nation develop and maintain a close and accurate understanding of the ways in which the present and future needs of their constituents can be served.

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[*] W. J. Paisley et al., "Developing a Sensing Network for Information Needs in Education," Stanford Institute for Communication Research, 1972.

II. Preliminary Studies

To begin its activities in the needs analysis area, the Commission supported a preliminary literature analysis by Dr. Ruth Patrick and Dr. Michael Cooper, of the University of California, Berkeley. In addition to showing the data on library and information service needs and the orientation toward institutions, the analysis revealed that existing statements of library service objectives tend to be vague and generally unsuitable for detailed planning.

Following this preliminary analysis, the Commission decided to fund a more detailed study that would pull together all available material that dealt directly with user needs and that would express the findings to show where our knowledge was solid and where it had substantial gaps. This study was carried out by Mr. Charles Bourne and his colleagues at the Institute of Library Research, University of California, Berkeley, together with Dr. Marcia Bates, College of Library and Information Services, University of Maryland. A report on the study is available through the ERIC system.*

The Bourne study focused on the special needs of identifiable subgroups in the population, rather than on the typical users who constitute the bulk of public library clientele. The study attempted to identify needs in relation to single variables such as age, educational level, economic level, major occupation, language skills, ethnic background, and housing location. Membership in any such group is, of course, not mutually exclusive. A given individual will usually be included in several of these subgroups. The value of such an analysis helped to isolate, to some extent, the variables that may be the most significant in determining user needs.

At the same time as the Bourne study was being carried out, the Commission initiated a study to look ahead toward American society in the 1975–80 time period. The purpose of the study, carried out by Dr. Edwin B. Parker, of the Institute of Communication Research, Stanford University, was to identify those trends that would have an impact on future needs for library and information services. The point should be made here that valuable speculations about user needs can come from any of three sources:

(1) the end users (and nonusers) themselves;
(2) the professionals who serve these users; they can often articulate a need that users do not recognize they have or do not think to articulate; or
(3) those who think about the future in terms broader than a given profession; they can sometimes foresee and articu-

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*Charles P. Bourne et al. "**Preliminary Investigation of Present and Potential Library and Information Service Needs.**" Prepared for the U.S. National Commission on Libraries and Information Science. Berkeley, Calif.: Institute of Library Research, University of California, February 1973. ERIC No. ED 073 786.

late important trends that are not fully apparent to professionals in a field.

The Parker paper, presented in this book as chapter 2, represents the third type of source.

III. Background of the Denver Conference

While the Bourne and Parker studies were in process, the Commission began to make preliminary plans for a special conference that would serve as a forum for the discussion and review of available user needs information. The Commission-sponsored studies might be thought of as stimulus material, prepared by a few knowledgeable individuals, that now needed validation (or revision) with the help of a larger number of individuals who were in more direct contact with particular user groups.

From the outset, it was recognized that the Commission could not hope to provide definitive statements for all aspects of user needs or for all segments of the American public. To do so would require a data-gathering effort well beyond the Commission's resources. However, it was felt that substantial progress toward compliance with the Commission's mandate could be made if the Commission could:

(1) define groups of individuals and institutions whose library and information needs should be of special concern to the Commission;
(2) identify a group of 15 to 20 experts qualified to interpret the findings and conclusions in the Commission-sponsored background material, as well as to speak to the needs of particular groups from their own experience and understanding;
(3) provide these experts with background materials and instructions to assist them in preparing a description of service objectives for each group;
(4) have the experts develop detailed and uniformly formatted statements of needs for library and information service; and
(5) provide an opportunity for face-to-face interaction among these experts, Commission members, Commission staff, and consultants, to help assess the status of our knowledge of user needs.

In late 1972, the Commission voted to undertake these steps and placed responsibility for the effort with the Commission's Committee on User Needs.* With the help of the Commission staff, the Committee identified 17 individuals representing selected areas of user needs concern and invited them to participate in the NCLIS User Conference at the University of Denver. The clienteles selected for user needs coverage at the conference were:

---

*Carlos A. Cuadra, Chairman; Joseph Becker, and Alfred R. Zipf.

- Scientists and technologists
- Agricultural community
- Business community
- Labor
- Educators
- Biomedical community
- Creative and performing artists
- Social Service personnel
- Women, homemakers, and parents
- Children
- Young adults and students
- Aged
- Geographically remote
- Economically and socially deprived
- Institutionalized
- Mentally and physically handicapped
- Culturally isolated

Of these 17 clienteles, one was not formally represented at the Denver conference, because the individual who had planned to prepare the paper on the needs of educators later proved unable to do so. Another invitee, who was expected to address the needs of the culturally isolated, elected to focus more narrowly, and briefly, on the needs of the Mexican-American subgroup. Except for these two papers, the papers presented in chapter 4 cover the user-needs areas selected for discussion at the Denver conference.

IV. Denver Conference Attendees

The conference was held at the Phipps Mansion, University of Denver, May 24–25, 1973. There were 24 attendees, including Commission members and staff:

Commission Members

Carlos A. Cuadra
Manager, Education and Library Systems Department
System Development Corp.
(Chairman of the User Needs Conference)

Joseph Becker
President, Becker and Hayes, Inc.

Louis Lerner
Publisher, Lerner Home Newspapers

Invited Participants

Marcia J. Bates, Assistant Professor
College of Library and Information Services
University of Maryland
College Park, Md. 20742
(Women, homemakers, and parents)

Donald V. Black
System Development Corp.
(Special paper on the library needs of the disadvantaged; see appendix)

Estelle Brodman, Director
Washington University School of Medicine Library
4580 Scott Ave.
St. Louis, Mo. 63110
(Biomedical community)

Genevieve M. Casey, Professor
Division of Library Science
Wayne State University
Detroit, Mich.
(Aged)

Vivian Cazayoux
Associate Librarian
Louisiana State Library
Baton Rouge, La.
(Social service personnel)

Bernard F. Downey
Institute of Management and Labor
Relations
Rutgers University
New Brunswick, N.J.
(Labor)

Diane G. Farrell
Children Services Librarian
Eastern Mass. Regional Public Library
System
Boston, Mass.
(Children)

Robert J. Frist, Associate Director
Cooperative Extension Service
Purdue University
West Lafayette, Ind. 47907
(Agricultural community)

David Hamilton
Music Editor
W. W. Norton Co.
New York, N.Y.
(Creative and performing artists)

Ann P. Hayes
Appalachia Adult Education Center
Morehead State University
Morehead, Ky. 40351
(Geographically remote)

Harris C. McClaskey
Assistant Professor, University of Minnesota
Library School
Minneapolis, Minn.
(Institutionalized)

Edward B. Miller, Coordinator
Model Cities Reading Centers
Houston Public Library
Houston, Tex.
(Economically and socially deprived)

Regina Minudri
Alameda County Library System
224 West Winton
Hayward, Calif.
(Young adults and students)

William Paisley
Institute for Communication Research
Stanford University
Stanford, Calif.
(Scientists and technologists)

Edwin B. Parker
Institute for Communication Research
Stanford University
Stanford, Calif.
(Information and society; see ch. 2.)

Ted Slate, Librarian
Newsweek, Inc.
444 Madison Ave.
New York, N.Y.
(Business community)

F. Vinton Smith, Jr., Director
Educational and Training Services
Whitten Village
Clinton, S.C.
(Mentally and physically handicapped)

Manuel E. Velez, Instructor
Department of Communications
Pima College
Tucson, Ariz. 85719
(Culturally isolated)

Commission Staff

Charles Stevens
Executive Director

Rod Swartz
Deputy Director

Mary Alice Hedge Reszetar
Associate Deputy Director

V. Conduct of the Conference and Organization of This Report

There were four components of the conference:

(1) Introduction to the conference;
(2) General session, including presentation of individual papers;
(3) Working group sessions; and
(4) Reports of the working groups.

The presentation and discussion of individual papers required just over a day. Most of the authors had provided copies of their papers for circulation to the participants in advance of the conference so that there could be an effective exchange of information once the meeting began. The papers followed a generally consistent format, because the authors had been asked to: (1) Define the characteristics of their group, (2) indicate why their group should receive information services, (3) define the needs of their group for library and information service, (4) assess the adequacies and deficiencies of current library and information services, and (5) indicate some strategy for fulfilling the needs.

During the general session, in accordance with the primary concern of the conference, authors of papers were asked to focus their summary remarks on the information needs of their group. Although the time for consideration of each group was limited, the general session provided a fairly full and free exchange of the views represented in the individual papers. These papers, in their final form, constitute the contents of chapters 2, 3, and 4 of this book.

The second day of the conference was devoted to a structured, three-pronged attack on the most serious of the user needs problems facing the Commission: that of defining and expressing user needs in such a way that both common and unique requirements could be discerned and some kinds of priorities associated with them.

On the second day, the conference participants divided into three work groups to consider various aspects of the information needs problem; they then returned to full session again to report on their deliberations and to join in discussion of the reports. Chapter 5 presents the Chairman's charge to the three working groups and summarizes the reports of the groups and the ensuing discussion.

One of the results of the conference was general agreement on the importance of expressing needs in some reasonably uniform way, to permit comparisons across various clientele groups. On the basis of that agreement, as well as any changes in perspective stemming from the conference discussions, the participants were asked to rework their papers in accordance with a revised format and to include, whenever possible, a needs-description matrix. It is in that final format that the papers appear in chapter 4. Chapter 5 summarizes the discussions of the working groups. Of the 16 final papers in chapter 4, 12 contained a needs matrix. The analysis of these matrices and the associated text constitutes chapter 6. The final chapter discusses the implications of the conference and possible courses of action.

CHAPTER 2

Information and Society

EDWIN B. PARKER
Professor of Communication
Stanford University

March, 1973

Preface

The following essay examines how the information needs of the people of the United States are likely to be influenced by social trends, economic trends, and by developments in information technology. The focus is on the period from 1975 to 1980, a time close enough to the present that some projections and predictions may be based on more than guesswork, yet far enough away that there is still time to plan and to implement plans.

The work was supported by a contract with the National Commission on Libraries and Information Science. The "Needs of Users" committee of the Commission, consisting of Carlos Cuadra, Joseph Becker, and Alfred Zipf, provided helpful discussion during the initial preparation and in response to an earlier draft. Additional encouragement and stimulation was provided by another Commission member, Andrew Aines.

Thanks are due to Paul Baran, John Barton, Donald Dunn, Paul Goldstein, David Harris, David W. Jones, Peter Sherrill, and David

Weber for their contributions or constructive suggestions for revision of an earlier draft.

After a brief introductory section, this essay deals in turn with economic trends, technology trends, and social trends, as each is likely to influence information needs. Some suggestions for meeting the needs indicated by these trends are interspersed throughout. The concluding section highlights the major questions concerning national information policy that are raised by the trends discussed.

I. Introduction

There are three basic factors making up our new, largely manmade environment, and hence determining the quality of life. The first is matter, the second is energy, and the third is information.

The three factors are related. The supply of matter and energy on this planet is finite; consumption of matter and energy cannot increase indefinitely without endangering the survival of the species. But information, which is the pattern of organization of matter and energy, has a potentially infinite supply. All our increases in material wealth flow from the discovery or the creation of new patterns in our matter and energy. Investment in the production of information (creation of new knowledge) and investment in widespread distribution of knowledge (e.g., through education) may be the only way to permit continued improvement in the quality of life without large increases in consumption of matter and energy.

All of the society's expenditure on science and technology and on research, development, and discovery in all fields can be viewed as investment in the production of knowledge. Policies concerning resource allocation for scientific and technical information must be considered in the context of that larger question of science policy generally. There are several related questions that need satisfactory answers. How much of society's resources should be allocated to research and development? How much of the research and development funds should be allocated to supporting scientific and technical information services? How can those funds be most efficiently utilized? Would more efficient scientific and technical information services lead to a different optimum balance between such services and the balance of research and development activities? Could overall efficiency of research and development activities be increased such that a different allocation between science and technology and the rest of society would be appropriate? Within the subarea of scientific and technical information, how should funds be allocated between provision of present information services and research and development leading to more efficient future services? Who should make each of these resource allocation decisions?

Similarly, all of society's expenditures on education, broadly defined, can be viewed as investment in the distribution of knowledge. Policies concerning resource allocation for school and public libraries must be considered in the context of that larger question of education policy. Several questions need to be asked and answered. How large a share of society's resources should be allocated to education and other forms of distribution of knowledge? Can we afford to make education available to everyone throughout his lifetime on an equal opportunity basis? To what extent can education be made more productive (e.g., less costly without reducing quality), through the use of books and other media as a substitute for expensive human labor? How many of our education dollars should go directly into education services now, and how many should go into the development of media and institutions that can make future education less costly or more widely accessible? Who should make these allocation decisions?

Our society spends much money on the telephone network, communication satellites, computer information systems, broadcast transmitters, cable television printing presses, Xerox machines, library buildings, microfiche readers, record players, audio and video cassettes, and other information technology. How should we allocate resources between the technology for the storage and distribution of information and the preparation of messages to be stored and transmitted through that technology? Can investment in improved information technology significantly reduce the unit costs of storing and transmitting information? Could an improved infrastructure of information technology permit substitution of information for matter and energy; for example, by replacing some human travel with electronic teleconferencing? Would lowered information technology costs lead to productivity gains in business and industry? Does our economic system provide sufficient incentive for the development and installation of a technological information infrastructure that will lead to productivity gains in both the private sector and the public sector (e.g., in science and in education) of the economy? Are there major economies of scale to be gained such that public sector information services would be cheaper as part of a general purpose information system (e.g., via communication satellite and cable television) than if dedicated special purpose systems were developed? If yes, what policies are needed to insure that general purpose information systems have the capacity and characteristics needed by libraries and other public sector institutions?

Those who interpret narrowly the task of the National Commission on Libraries and Information Science may ask why libraries should be directly concerned with such questions. One answer is to argue for a broader perspective in which the Commission takes on the larger task of formulating and recommending an information policy for the society that goes well beyond the concerns and interests of libraries.

Another answer is that a major resurgence of libraries may result if the national leadership of this Commission is used to make libraries a major instrument for implementing a national information policy focusing on economic growth and improved quality of life through information services. As will be argued below, libraries and other public sector information services may provide a means of implementing a national information policy with perspective much broader than the traditional concerns of libraries. Technological changes should permit a lower unit cost of access to information. Social demands for more individualized information and education services are increasing. The economic and social benefits to be derived from investment in such services may together contribute to a major resurgence of libraries. This is because libraries have been the traditional source of on-demand public information and education. Adjustments to new technology will cause stresses, but adjustment will permit libraries to continue their present functional role of providing on-demand information service to those who want it. Any other institution would have to adjust both in function and in technology to serve the needs. This paper assumes that libraries will not passively accept stable or reduced budgets and hence limit demand by restricting supply. Instead, it assumes that they will respond aggressively to the challenge and obtain expanding budgets by demonstrating the economic and social value of expanded information services.

Documentation of the present demand for information by individuals and organizations permits analyses of how present institutions might meet the projected demand. Such projections and analyses may be more prone to error in the case of information than similar analyses of supply and demand curves for conventional business. In conventional business supply can be thought of as the producers' response to consumer demand. Reduction of unit cost through productivity gains or economies of scale may lead to increased demand. However, in the case of information made available through public institutions such as schools and public libraries, demand may be determined by supply rather than by the needs of the people they serve. Public institutions with fixed annual budgets may find themselves unable to expand their supply of service if they found a strategy that stimulated demand. When increased demand does not automatically generate additional revenues, the supplying institution may be forced into service strategies that effectively limit demand in order to survive on tight budgets.

Consequently, conventional studies of information demand (sometimes called information needs) should be supplemented by an examination of the underlying economic and social factors that continue to influence the structure of both supply and demand for information. Of special interest are changes in information technology with potential for reducing the unit cost of access to information and hence increasing both supply and demand. Technology that permits delivery of information to individual homes (e.g., via television sets) is likely to lead to greater demand than technology that makes the information available only at public libraries. This is so, even if the information is provided "free" at both the television set and the library, because of the higher "opportunity cost" of time and energy to get to the library.

A study of the information needs of a society would still be incomplete if it focused entirely on the information needs of individuals in the society. Information is a public good with external benefits, such that each of us may benefit when our fellows are better informed. Therefore, when viewed from the perspective of the society as a whole, the social need for information may be greater than the aggregate of the individual needs (or demands).

Even when these first-order external benefits are taken into account, the resulting conclusion about information needs may still understate the case. Although information may be valued by individuals and by the society as an important item of consumption, expenditures on information can be shown to be significant as investment leading to increased economic productivity. Economists with as differing views as John K. Galbraith and Milton Friedman (Galbraith, 1958; Friedman, 1962) agree that a free enterprise economic system leads to an underinvestment in education. In other words, the optimum investment in the distribution of information from the perspective of growth of the economy as a whole is greater than that which would result from individual investment. Thus, a careful analysis of the information needs of the society should also include an examination of the importance of investment in both generation and distribution of information as a means to productivity gains in the U.S. economy.

The broad sweep of social trends and values, described by some as a transition to a postindustrial state, may be merely an effect of underlying changes in the technology and the economic structure of society. Examination of those trends may yield additional insights that assist in the formulation of a statement of information needs for the last half of this decade. The goal of zero population growth, attempts to slow the rate of expansion of energy consumption, and conservation of nonrenewable or recyclable materials do not appear to be passing fads. Pessimists may argue that the views of the economic expansionists and the stability-seeking conservationists are irreconcilable. That debate is likely to continue for the rest of this century. But, social investment in information resources in this decade may be the key to eventual reconciliation.

II. Economic Trends

For present purposes, forecasting the general level of the economy in the period from 1975 to 1980 does not seem like a very useful activity. One could extrapolate from the longrun trend, with adjustments for a slowing rate of population growth and other factors. The result would be a prediction of a growing gross national product, but with a sizable margin of uncertainty associated with it. If we assumed a fixed distribution of components of GNP, then we would conclude that the demand for information services would increase proportionately with the growth of the economy.

More useful for present purposes is an analysis of the changes taking place in the composition of the national product. An examination of the changes in the significance of information relative to other components of the economy may lead to useful insights about information needs in the latter part of this decade, even if the data do not permit highly reliable numeric projections.

The most comprehensive analysis of the role of information in the U.S. economy was reported by economist Fritz Machlup in his 1962 book **"The Production and Distribution of Knowledge in the United States."** Working with 1958 data, he concluded (p. 362) that the production and distribution of knowledge accounted for 29 percent of the gross national product in 1958. He included education, research and development, media of communication, information machines, and information services in that total, divided as follows:

	Millions	Percent
Education	$60,194	(44.1)
Research and development	10,990	(8.1)
Media of communication	38,369	(28.1)
Information machines	8,922	(6.5)
Information services	17,961	(13.2)
Total	136,436	(100.0)

The breakdown of that total between Government, Business, and Consumers is as follows:

	Millions	Percent
Government	$37,968	(27.8)
Business	42,198	(30.9)
Consumers	56,270	(41.3)
Total	136,436	(100.0)

According to Machlup's calculations, this total consists of 80 percent final product (including both investment and consumption) and 20 percent intermediate product (current costs of production of other products).

He does not attempt a formal breakdown between investment and consumption, but argues that the expenditures on information as investment exceed the consumption expenditures on information. (I will return to this difference between consumption and investment below, because it makes a crucial difference to what government policies with respect to information are adopted.)

Using two different estimation techniques, one based on incomes of workers in knowledge-producing occupations and one based on growth rates of knowledge industries, Machlup concludes that the information segment of the economy is growing at the rate of approximately 10 percent per year, a rate approximately double that of the economy as a whole.

The following tables attempt to provide a crude indication of the growth of information related goods and services in the private sector of the U.S. economy between 1950 and 1970. Data are taken from the national income tables presented in the **"Survey of Current Business,"** U.S. Department of Commerce. Table 2-1 presents the general summary by major sector of the economy. Despite increases in dollar amounts, the percentage of national income derived from manufacturing declined from 31 percent in 1950 to 27 percent in 1970. Agriculture declined from 7 percent of national income in 1950 to 3 percent in 1970.

Table 2-1 Components of National Income (current dollars)[1]

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
National income (billions)	$239.17		$414.50		$798.63	
Agriculture	17.38	7	17.30	4	25.55	3
Mining	4.99	2	5.51	1	7.67	1
Construction	12.40	5	21.79	5	42.79	5
Manufacturing[2]	74.50	31	121.02	29	216.28	27
Wholesale/retail	42.78	18	67.70	17	121.19	15
Finance[3]	20.53	9	42.59	10	89.56	11
Transportation	13.20	6	17.91	4	29.69	4
Communication/utilities[4]	7.16	3	16.81	4	31.41	4
Services[5]	22.31	10	49.06	12	107.66	13
Government	23.37	10	52.53	13	126.80	16
Rest of the world	.55	0	2.29	1	4.62	1

[1] Source: Survey of Current Business, U.S. Department of Commerce.
[2] See table 2-2. Components of Manufacturing Income.
[3] See table 2-3. Components of Finance Income.
[4] See table 2-4. Components of Communications Income.
[5] See table 2-5. Components of Services Income.

Tables 2-2 through 2-5 present changes in those components of four sectors of the economy that can be interpreted as indicative of information products and services. Rather than attempt a finer breakdown, the sum of printing/publishing and electronics industries were taken as indicative of the information component of the manufacturing sector. Similarly, indicators of information components of finance, utilities, and services were examined in comparison with the category as a whole. Government expenditures, although a major factor in the total information product of the society, were omitted in this series of tables, because the purpose is to show what is happening in the rest of society so that government expenditure decisions can be made on a more informed basis.

Table 2–2 Components of Manufacturing Income

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
Total manufacturing	$74.50	31.1	$121.02	29.3	$216.28	27.2
Printing/publishing	3.61	1.5	6.55	1.6	11.90	1.5
Electronics	4.66	1.9	9.91	2.4	20.22	2.5
Subtotal	8.27	3.4	16.46	4.0	32.12	4.0

If government expenditures were included, the information component of the national income would be larger in total and show higher percentage increases. (This follows from the high percentage of government expenditure on information, as documented by Machlup, and the increase of government expenditures from 10 percent of the national income in 1950 to 16 percent in 1970.

Table 2–3 Components of Finance Income

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
Total finance	$20.53	8.6	$42.59	10.3	$89.96	11.3
Securities brokers	0.34	0.1	0.67	0.2	2.84	0.4
Insurance agents	1.37	.6	2.36	.6	3.84	.5
Subtotal	1.71	.7	3.03	.8	6.68	.9

Table 2–4 Components of Communication/Utilities Income

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
Total communication/utilities	$7.16	3.0	$16.81	4.1	$31.41	3.9
Telephone/telegraph	2.96	1.2	6.99	1.7	15.08	1.9
Broadcasting	.30	.1	.92	.2	1.69	.2
Subtotal	3.26	1.3	7.91	1.9	16.77	2.1

Table 2–6 summarizes the information component of national income for 3 years, showing an increase in the information-related components in the private sector of the U.S. economy from 10 percent in 1950 to 14 percent in 1970. The actual numbers (or percentages) are perhaps too crudely estimated to be meaningful. But they are consistently estimated and thus provide a solid indication of the trend. The factor-of-five increase in unadjusted current dollars (from $23 to $115 billion) and the factor 1.5 increase in percentage of total national income indicates how strongly information-related activi-

ties dominated the economic growth of the past two decades. These trends are likely to be accelerated in the decade of the 1970's, pushed along by the expansion of cable television, video cassettes, computer hardware and services, communication satellites, and other advances in communication technology.

Table 2-5 Components of Services

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
Total services	$22.31	9.3	$49.06	11.9	$102.66	12.9
Business services	2.07	.9	6.04	1.5	13.89	1.7
Motion pictures	.85	.4	.88	.2	1.55	.2
Medical services	4.31	1.8	10.67	2.6	29.78	3.7
Legal services	1.62	.7	2.67	.6	6.43	.8
Education services [1]	1.09	.5	2.66	.6	7.29	.9
Subtotal	9.94	4.3	22.92	5.5	58.94	7.3

[1] Does not include Federal, State, or local government services.

Table 2-6 Total and Percentage of Information-Related Components of National Income

	1950		1960		1970	
	Billions	Percent national income	Billions	Percent national income	Billions	Percent national income
	$23.18	9.7	$50.32	12.2	$114.51	14.3

Another way of approaching economic trends is from labor statistics. Bureau of the Census data on the composition of the work force in 1950, 1960, and 1970 can be compared with projections of the U.S. Department of Labor for 1980 (Bureau of Labor Statistics, Bulletin 1701, "Occupational Manpower and Training Needs," 1971). Professional, technical, and managerial occupations (and white-collar occupations generally) are more concerned with processing of information than with direct handling of products. The trends and projections for this are shown in table 2-7.

The Bureau of Labor Statistics has also estimated the percentage increase to be expected in various occupations between 1968 and 1980. The increase in total number of white-collar jobs is estimated at 50 percent. The number of jobs in which an advanced degree is now considered necessary for professional advancement is estimated to increase by 38 percent. In the job categories most concerned with new information technology, i.e., computer programers, systems ana-

Table 2-7 Percent of Labor Force in Specified Occupations

[In percent]

	1950	1960	1970	1980 (projected)
Professional, technical, and managerial	17.0	21.8	24.7	27.8
All white-collar workers	37.5	43.1	48.3	50.1

lysts, computer operating personnel, etc., a whopping 145 percent increase between 1968 and 1980 is predicted. These are the occupations which make technical training rather than advanced degree training occupations the fastest growing in the work force.

These statistics provide a simple economic description of the dominant trend in the society: a shift from an industrial society to an information society. Such facts underlie the various qualitative discussions of what is described as the "postindustrial society" or the "knowledge society."

Why is this trend taking place? The most likely explanation is that expenditures on information may constitute the most promising investment in improved economic productivity. Increasing productivity means producing more goods and services for the same amount of human labor. This usually means working smarter rather than working harder, i.e., applying new information to the production processes.

The trend in labor utilization in the past century has been to shorten hours and lessen manual exertion. The past gains have come from improved knowledge of production techniques (often a result of research and development activities) and from an increasingly healthy and well-educated labor force. Peter Drucker argues, "knowledge, during the last few decades, has become the central capital, the cost center, and the crucial resource of the economy" (Drucker, 1969, p. xi). J. J. Servan-Schreiber's **"American Challenge"** (1968) outlines what he sees as the United States' threat of economic domination of Western Europe as essentially an information advantage. The recent Japanese "white paper" titled "The Plan for Information Society—a National Goal Toward Year 2000" (Japan Computer Usage Development Institute, 1972), recommends a major centrally planned development of what they call "the information society." They propose a 5-year investment of 1,000 billion yen ($3.2 billion). Their argument is that with such a national investment they can sustain an annual rate of growth of GNP in excess of 10 percent per year, contrasted with a 7 percent growth rate if they follow a U.S. style "laissez faire" policy of information investment.

A recent U.S. congressional report titled, "American Productivity: Key to Economic Strength and National Survival" also recommends investment in an expanded communication infrastructure as a key to U.S. economic growth. (Report of the Subcommittee on Priorities and Economy in Government of the Joint Economic Committee, Congress of the United States, July 3, 1972.) That report says, "Although a skeleton national computer net exists . . . , expansion of such a net into a full-fledged computer utility, like other regulated utilities, could bring vast productivity gains at low costs in services where information exchange is basic" (p. 6).

One form of investment in information is expenditure on education.

Edward Denison (in his 1962 monograph, "**Sources of Economic Growth in the United States and the Alternatives Before Us,**" New York: Committee for Economic Development) attributes 23 percent of the U.S. economic growth from 1929 to 1957 to increases in the level of education. He further attributes 20 percent of the economic growth in the same period to advances in knowledge. When these figures are translated into economic growth per person employed, 42 percent of the economic growth is attributed to improvements in education and 36 percent to advances in knowledge. Another economist, Gary Becker, demonstrates that there is a greater return on investment in education for persons with lower levels of education than with higher. ("**Human Capital,**" New York: Columbia University Press, 1962.) Unfortunately, people with lower education are less likely to have savings over and above current consumption needs and are less likely to be able to borrow money to invest in their own education, or even to know the value of such education to themselves. Edward Phelps ("**Golden Rules of Economic Growth,**" New York: Norton, 1966) argues that optional investment in education becomes increasingly larger the more technologically progressive is the society. These arguments for social investment in education also apply to the public and other libraries that constitute a significant component of the total educational services available in society.

Will (and should) this trend to increasing expenditures on information continue? Given the goal of continued economic growth, then investment in information should continue to increase in total amount and in the percentage of the total economy. The argument for increases in the percentage of gross national product, not just increasing dollar amounts to maintain a stable percentage, follows from Phelps' argument for increased need for information as the society becomes technologically more complex.

But most of our economic productivity gains have been accomplished in the agricultural and manufacturing sectors of the economy. With manufacturing now providing only about a quarter of our national income and agriculture only about 3 percent, we may be reaching a point of diminishing returns. With total information expenditures by public and private sectors of the economy now exceeding expenditures on manufacturing and agriculture, the traditional growth arguments may not apply. Further increases in the information sector of the economy may not lead to as large an overall growth if the sectors in which the growth is expected to appear constitute an already small and further declining percentage of the total economic activity of the society.

Because of this diminishing returns problem in an increasingly information dominated society, two questions need to be analyzed more carefully than has been necessary in the past. First, more attention should be paid to the efficiency of expenditures on information. We are no longer an information-poor society in which most additional information services could be justified as leading to economic growth. We are becoming an information-rich society in which we need to consider more carefully which information services are most likely to lead to economic growth. The relative efficiency of different forms of expenditure in information services should be carefully analyzed. It would be silly to be inefficient in the expenditures in a larger sector of the economy (information) while claiming the goal is improved efficiency in a smaller sector of the economy (manufacturing). One of the key policy questions for the National Commission is what mix of private and public expenditures will be most efficient, and what level of government (local, State, or Federal) can best manage the government portions. The answer may be different for investment in information production than it is for information distribution.

The second major question raised by these economic trends concerns the need for investment focused on productivity gains in the information sector of the economy itself. If information is, as we have argued, an already large and fast-growing component of the economy, then the best chance for productivity gains in the economy as a whole may be investment in research and development and in education that can lead to productivity gains within the information sector of the economy itself. Just as education and research and development led to dramatic economic gains in the agricultural and manufacturing sectors of the economy (i.e., in the use of matter and energy), so the appropriate road to further national economic growth may be through similar investment in research and education leading to more efficient and effective use of information itself.

EFFICIENT INFORMATION INVESTMENT

What form of information expenditure is most effective? The first of our two major questions is most difficult, as the members of this Commission are certainly already aware. Better answers to this question would be one of the desired outcomes from increased expenditure on information about information, as suggested in our second major question. But some indications are available from previous research on this question. For a recent general collection of articles on this subject, see the recent **"Economics of Information and Knowledge"** (Lamberton, 1971).

Perhaps the most important question for both economists and policymakers is the extent to which efficient allocation of resources is obtained through the private sector of the economy; i.e., through free market mechanisms. In a classic paper, Nobel prize-winning economist Kenneth Arrow (1962, pp. 609–626), argues that a free enterprise economy can be expected to underinvest in information production for three reasons. One is the "indivisibility" nature of information, a second is inappropriability (the discoverer or inventor cannot obtain all the economic benefits from his discovery), and third is uncertainty. His arguments are made in the context of technical invention, but can be generalized to investment in information production generally.

With respect to distribution of information, even that most consistent advocate of free markets, conservative economist Milton Friedman (in his section on education in "Capitalism and Freedom," [1962]), argues that the free market leads to underinvestment in education. He argues for both equity financing by the Federal Government (with payments returned through income tax) and subsidy in the form of fees good at any approved institution as ways of compensating for market imperfections that have led to that underinvestment.

The same reasons why education is primarily a governmental activity apply to libraries and other information institutions also. Nothing in the current economic trends is changing that need for continued governmental involvement in financing information services. Which level of government can most effectively supply those services is a question outside the scope of this paper.

Who needs the information services most? Becker's data (cited above) indicate that the least well-educated (or least well-informed) can most benefit (in the direct sense of increased dollar income) from increased education or information. There is a diminishing marginal return as higher levels of education are attained. Unfortunately for library policy and financing, the more educated and more informed are more likely to recognize the value of additional information.

Well-educated middle class taxpayers may be the ones most likely to provide the political support for public library financing, even though economic efficiency arguments would argue that service policies aimed at those more economically and educationally deprived would be more socially beneficial than services desired by middle class patrons. The better educated segments of the population may also be better able to afford information available through the private sector of the economy (e.g., by buying paperback and hard cover books). Information for the information-poor is more likely to be of benefit both for the individual and to the society as a whole. The information-poor are also economically poor and hence less able to obtain information from the private sector of the economy.

Some may argue against major investment in information resources for the economically and culturally deprived segments of American society. They maintain that such people do not want or would not utilize the information and would use such facilities only or primarily for entertainment. There are two fatal flaws in this argument.

One flaw is that it ignores the considerable elasticity of the demand for information. When entertainment is cheap (provided "free" by television because of advertising) and education and information have high social and economic costs, it is not surprising that people in economically deprived sectors of the society spend little of their limited energy and resources on investment in information to improve their future. They have enough trouble meeting the basic needs of the present. Conversely, if the society makes education and information resources as freely and easily available to all as television entertainment is now available, utilization of those resources could increase considerably. To compare present use of "free" television and free libraries would be unfair on two counts. One is that much more money is spent (by advertisers) to subsidize television than is spent (by government) to subsidize libraries. Television has more incentive to work hard at attracting audiences. The second way the comparison is unfair is that the libraries are far from free when the time and effort required for access by the user is included in the calculation. Becker's economic theory of the allocation of time provides a basis for a fairer comparison (Becker, 1965). This is not to argue that large numbers of people will suddenly switch from comic books to the **New York Times** or from the want ads to computer aided instruction in the economic theory of international monetary transactions. The education and information will have to be perceived as relevant as well as inexpensive before it will be widely used. Understanding one's rights under the welfare or social security system, obtaining information of the "Dear Abby" or "Dr. Hippocrates" type, or learning basic job skills are examples of information likely to be in greater demand. The only way one can maintain the argument that information would not be used is to assume that information will continue to be as expensive to obtain as it is now or to assume that the information will be irrelevant to the needs and interests of those not now benefiting from existing information resources.

The second fatal flaw in the pessimistic argument is that it depends on a stereotype that denies the variability across individuals. It falsely assumes that all will react the same way. It may well be true that some will not make any use of improved information and education resources and that others will make only minimum use. But still others are likely to make use of the opportunities presented. The economic argument for investment in human resources dictates that no people should be denied the additional opportunities that extended information systems can present. The implications of this economic argument coincide with those of the moral argument that claims we should not deprive some individuals of the benefits of improved information systems merely because others may not utilize them, or utilize them fully. Suppose a similar debate were held soon after Gutenberg's development of the printing press. A strong case could be made against widespread diffusion on the grounds that the illiterate public would not use it anyway. The force of the argument would have been stronger then than now, but is equally flawed, as history has shown.

Providing public library service for the least well-educated and well-informed segments of the population may imply a shift in the kinds of media and services provided by libraries. More emphasis on audio and video media with a consequent relative decline of emphasis on print may be called for. Shifts in geographic location and in library staffing may be required to make services more accessible both physically and socially. Different kinds of reference service and educational programs may be required to meet the needs of less well-educated segments of the population.

Providing services that lead to a more informed population and better distribution of knowledge is one avenue to productivity gains in a national economy. A second is to provide information services that facilitate the production of knowledge. Information services in support of research and development activities, such as major research libraries and science information programs and education services, should both receive support as part of a strategy of information investment for economic growth.

INFORMATION RESEARCH AND DEVELOPMENT

The second major question raised by the trends in the economy concern the importance of investment in activities intended to make the information sector of the economy itself more productive. Productivity gains and economies of scale in manufacturing have led to lowered unit costs of most manufactured goods. Information services, such as education and library services, generally have not benefited from similar cost-reducing changes in their means of production and distribution. George Pake (1971, p. 908) discussed the crisis in higher education in the United States and pointed to the productivity problem as a key issue. He cited costs per unit of instruction that increased by a factor of four during the decade of the 1960's in many universities. He said a major challenge to educational institutions is to find a way to use technology to increase the productivity of teachers. The same comments can be applied equally well to education at all levels, including public education services of libraries.

This is not just a problem for libraries and other educational institutions. It is a national economic problem of considerable magnitude. The rate of economic growth of the United States is lower than that of Japan and other countries. This points to a relative decline of the United States as a world power unless ways are found to improve the rate of economic growth. Investment in an improved information infrastructure may be essential for a smooth transition from a manufacturing society to a knowledge society. Development of information utilities that permit economical on-demand access to information services from most homes and offices may be the most promising road to national economic growth. As will be discussed in the following section on technology, the advent of two-way cable television, communication satellites, and computer information systems can permit the construction of a national information system that could spark rapid economic growth. Although investment costs would be high, both in the research and development needed and in the capital costs of installing such a system, the gains are likely to be immense. The extension of information services now provided at libraries (on-demand information and education) to most homes and offices at costs the society can afford may be the most significant factor influencing the U.S. economy in the last quarter of the present century.

Major development of a technology-based information infrastructure permitting significantly lowered unit costs of access to information and education may spark a period of economic expansion analogous to the railroad building era a century ago. As indicated above, the Japanese appear to be betting that they can build such an information infrastructure for their society and maintain a sustained rate of economic growth in excess of 10 percent per year as a result.

In the United States, as in Japan, much of the investment would come from the private sector of the economy. But, as was the case in the development of transcontinental railroads, government participation in policy formation and in the provision of leverage funds to influence the direction of development would be necessary.

III. Technology Trends

There are several major trends in the development of information technology that are likely to have a significant impact on the demand for library and information services in the period 1975–80. The key technologies in which major changes can be expected are cable television, communication satellites, computers and a cluster of video technologies (tapes, cassettes, cartridges, disks).

Technology projection is a risky business. We typically tend to overestimate the amount of change taking place when we project only 1 or 2 years ahead. In 1971 and early 1972 the predictors were saying that video cassettes would achieve major penetration of the home consumer market during 1973. Since then, sales to institutional markets have grown, but sufficiently reliable and economical products to reach the home market in a major way are still a year or two away. Now the technology predictors are saying that video disks rather than video cassettes may be the vehicle for major penetration of home markets and that 1974 or 1975 are more reasonable dates. Similarly, in computer information systems and computer aided instruction systems, the technologists who promised major national changes within a mere 2 or 3 years have been shown to be too optimistic. More pessimistic views (such as those expressed by Anthony Oettinger in his book, **"Run, Computer, Run"** [1959]) have proven more realistic in their assessment of the economic and institutional barriers to technological change.

Despite this tendency for technology prognosticators to overestimate the extent of change in the following 2 or 3 years, there also appears to be a tendency to underestimate the amount of change in a period of 5 to 10 years. In 1950 many computer experts were convinced that perhaps as few as half a dozen large computers would serve all the computing needs of the Nation. By 1960 most large businesses were computer users. By 1970 almost every individual in society had had contact with computers in some form, either through school scheduling, employment, consumer credit transactions or involvement with government. By 1980 computers may begin penetrating the home consumer market as well as provide services for government and business (possibly through time-sharing services for household information and entertainment accessible from cheap terminals attached to a telephone or a television set). In the late 1950's the first satellites were launched. By the late 1960's satellite communication was a major international business. The launching of Canada's domestic communication satellite in late 1972 and the 1972 FCC authorization of several domestic communication satellite systems for the U.S. signal a new trend in communication technology with major social impact to be felt before the late 1970's.

To some extent prophecies can be self-fulfilling, especially when made by influential Federal policymakers in the United States. Policymakers sometimes have it in their power to influence the trend being predicted by developing policy consistent with those predictions whether they be optimistic or pessimistic. Therefore, it may be advantageous to develop a scenario of what could happen, in case the policymakers choose to try to make it come true. Such a scenario is not the same thing as a prediction. Rather it is a possible future intended to suggest options and possibilities. The following section provides such a fantasy of what the state of communication technology might be if we look back on the 1970's with hindsight from 1985, making many optimistic assumptions in the process.

1985: A COMMUNICATION FANTASY

Nearly every home, school, and office in the country is, now, in 1985, obtaining the benefits from an information technology initiative begun in the 1970's. Some of the most dramatic changes that have taken place in society in the past 15 years can be attributed to the nationwide implementation of information and education services making use of the telecommunications technology: Cable television, communication satellites, computers and video cassettes.

In these 15 years, the television set has been the focal point of the changes taking place. In 1970 the television set was like the passenger train. It took people to scheduled places at scheduled times. You could look up the schedule to find out what you could see at what time. It provided a window on many different lands, some real and some fantasy. But some lands you could not see at all, because the "train" did not run there. Others were only available at infrequent and awkward times. Now, in 1985, the television set is like the personal automobile. Instead of a small number of routes with scheduled times for traveling them, there are a myriad of roads to take and you can "travel" any one of them at any time to learn whatever you want to learn whenever you want to learn it.

Even in 1970, television was being used for education, some of it very good. Sesame Street, for example. But there was seldom more than one channel. And for any given person at any given time, it was not really showing what he wanted to see. Which was not surprising given the fantastic variety of different people of different ages, different interests, different backgrounds, and different skills. And with all the different things in the world to learn about, it is no wonder one scheduled channel was not enough. And learning by passively watching the television screen was not as much fun (or as effective) as active participation where you were really *doing* something interesting.

Now, for our children, the television set has become the window into the information utility that permits them to work on any section of any course when it is convenient, just like taking out a particular book from a large library and turning to the third chapter. Except that now they do not have to walk to the library, the book is never checked out to someone else, and they can type in some questions on the television response panel and have the answer displayed on the television screen. Often the "book" asks them questions and then tells them immediately if their answers are correct. It hardly seems like the same television set, now that the keyboard and the video cassette player are added to it and there are computers and satellites somewhere at the other end of the cable. The children still have schools and teachers because there are many things the new communication technology cannot do, especially in responding to emotional needs. But the teaching of subject matter competence in most areas and the retrieval of information is better done through this new technology.

The transition of the television set from a "passenger train" to an "automobile" began back in the 1970's when cable television began its expansion in the large cities. At that time, the FCC lifted its ban on bringing additional television signals into the 100 largest cities and required at least 20 channels of television capacity on the cable. Many of our cable television systems today still have that 20 channel capacity, although the more modern ones have expanded to 40 or more channels.

Other systems have been rebuilt so that all the channels do not go directly into every home. Instead, the "trunklines" go to neighborhood switching centers. In some cases the "trunkline" capacity has been expanded to permit up to 200 channels. Since the television set can only be tuned to one channel at a time, a single channel to the switching center from each television set is enough to permit access to all the channels.

In these newer systems, some of the neighborhood centers have video cassette "jukeboxes" with a large library of cassettes including a lot of educational materials. It sure is nice to be able to study anything from beginning chemistry to advanced golf whenever you want, in full-living color with the stop action, slow motion, and instant replay under your own control. If you want to watch something that is not in the neighborhood cassette library, all you have to do is type in a request on the keyboard that now comes with the television set. They transmit it overnight from the nearest big city library that has a copy and record it at the neighborhood center for showing any time the next day. They say communication satellites are used for the transmission from the big libraries whenever the distance is more than about 35 miles. In the 1970's, NASA experimented with communication satellite systems dedicated for educational uses. That was very exciting and served to convince everybody of the need, once people saw it could be done and how useful it was. But now they have found that it is cheaper to send educational materials at discount rates on the regular satellites used to interconnect cable systems for entertainment and commercial services.

Many of the cable systems still have just the 20-channel capacity built in the 1970's and many neighborhoods do not yet have the local cassette libraries. Experts are now predicting that we will all have that capability by 1990.

The first regular uses of the two-way cable communication capability came in late 1973. It took nearly 2 years of research after the hardware was first available to complete the curriculum and program development needed to effectively use the two-way capability for teaching.

Satellites were used in a 9-month demonstration project in 1974 to distribute instructional television directly to schools and to cable television systems throughout the Rocky Mountain region of the United States. But that did not change the kind of instruction much. It distributed one-way instructional television signals to many different places that would not have received it otherwise. It was a big step in the right direction but did not get the recognition it deserved because the quality of the average program was not as high as that possible for a single national program like Sesame Street. The 1975 experiment with wider geographic distribution and experimental two-way capability is now recognized as the turning point in use of satellites for education.

By late 1974, video cassette players were beginning their rapid expansion in the consumer market. Since the players were attached to the television set, we began to get used to using television like a record player with moving pictures. But most people could not afford large collections. There were rental libraries available, but that was not as convenient as having immediate access from your own home. When we wanted to learn something, the cassette was better than a book or a correspondence course for explaining how things worked and showing how to do things. You did not even have to be able to read very well to follow the pictures and spoken words. One of the problems though was that the people who could not read very well could not afford the cassettes and players. So those of us who were already "information rich" got richer and the "information poor" got poorer. That was part of the reason why the government put all the research and development money into systems that could provide everyone with access to information.

By 1975 a few "pilot project" communities had a system installed that permitted television sets to be used as a computer terminal. There were several different technical ways of accomplishing that goal. One of the simplest was what they called a "frame grabber." It was like a rugged, simplified video recorder that recorded only one still picture. The appearance of continuous motion in television pictures comes from the fact that a new "still" picture is transmitted down the cable (or over the air) 30 times every second, with each new picture replacing the one that went before. Given the speed of electronics, there was plenty of time to send short messages in the time between each new picture every thirtieth of a second. That was used to transmit the "address" of particular television sets that were to receive the next picture or "frame," as they called it. The "frame grabber" recognized its own address and copied the next picture on the local storage device. Then the television picture was "refreshed" locally instead of from the cable. The touch-tone pad connected with the television set (or, in the more expensive models, typewriter keyboard) was used by the viewer to control what he wanted displayed next. Since each frame had to be displayed a lot longer than one-thirtieth of a second for people to look at or read the display, a single television channel could be used by at least 300 people (and sometimes twice that many) at the same time. Of course, they got only still pictures, when using the television set this way. That "frame grabber" system permitted a wide range of computer-aided instruction and information retrieval services.

State legislators began to see the economic benefits to be gained from adding adult and continuing education services by telecommunications instead of continuing to build new community colleges every year. Since the need for "lifelong learning" was constantly increasing and new community colleges were not able to serve all the people anyway, the new expansion came in telecommunications for continuing education. But that did not happen until after the half-dozen federally supported community demonstration projects showed what could be done.

So the telecommunications system for education developed not primarily for children in the 12 grades of public school, but for preschool, supplementary, and continuing education made available directly to homes, offices, neighborhood day-care centers, and adult learning centers. Since libraries were the major institutions already offering on-demand information and education services to adults, most of the adult learning centers began as libraries expanding their service offerings.

Now, in 1985, communication satellites are used to interconnect the cable television systems that provide all these services and to provide direct broadcast to low-cost receivers in remote locations. For educational television alone (both one-way and two-way services) there are five television channels of national service in each time zone. Two channels are direct broadcast on the national networks. The other three channels of educational satellite capacity are used to send special programs on demand to local cable systems, when they have a demand that they cannot fill from their local resources. That way most systems can provide service within 24 hours for any instructional program that is available anywhere in the country, even if they do not have a copy locally. Those three channels are used for filling real-time requests for digital or still picture information, with nonpeak channel capacity used to transmit requested motion video in slack time (usually overnight).

The five channels of television bandwidth in each time zone are needed for transmission to the satellite from any of the dozen or so regional centers around the country and thus for transmission to any of the local systems, either within their regions or to other regions.

Approximately one-tenth of that bandwidth is required in the "reverse" direction. That is primarily for request from local cable systems to the regional centers or from one regional center to a national center or another regional center. This "return" communication capability from every local cable system and from individual "home" receivers in remote areas is also used for the student responses in two-way television and for handling requests for information retrieval and other computer services. Some of the regional centers (especially in Alaska and Pacific Trust Territories) provide services to home receivers directly by satellite.

The size of local and regional libraries or information banks depends on the number of local and regional requests for information. When there is a request for information (text or still pictures, but not motion video), that cannot be filled locally, the request is transmitted to another regional center in real-time for immediate response. The regional centers are interconnected (via satellite) in a decentralized network with each one able to "dial into" each of the other regional centers just as if they were one of its local systems.

The kind and amount of information kept in each local and regional library was carefully planned on the basis of comparing local storage costs with communication costs involved in retrieving it from elsewhere. National coordination was involved in reaching the administrative agreements guaranteeing that there was a copy of everything of interest in at least two places.

Much of the research needed for the development of this system was in the computer software needed to make it possible on a reliable basis. Most of the costs were for development of programs to effectively use the technology. Most of the problems were organizational and administrative. Fortunately, the Federal Government began in 1973 to finance the farsighted program of research, development, and demonstration programs that led to the present benefits.

1980 INFORMATION TECHNOLOGY: A VIEW FROM 1973

A more conventional way to look at trends in technology is to project from the present. Two recent papers by the present author have attempted part of this task. One is a chapter, "Technological Change and the Mass Media," in the forthcoming **"Handbook of Communication"** (Parker, 1972). The other is titled "Information Technology: Its Social Potential" (Parker and Dunn, 1972). A recent projection of trends in video technologies with emphasis on implications for libraries is provided in an **Annual Review of Information Science** chapter by Richard Kletter and Heather Hudson (1972). Since these articles were written, the Federal Communication Commission has completed (in late December 1972) its rulemaking in the Domestic Satellite inquiry and, after many years of debate, implemented an "open skies" policy which is likely to result in as many as seven competing domestic communication satellite systems in the next few years. The first (by Western Union) is scheduled for launch in early spring of 1974. Other contenders, including RCA, may begin operational service even earlier through channels leased from the Canadian Telesat Corporation (whose Anik satellite went into operational service on Jan. 11, 1973). By signing 2-year leases for channel capacity on Anik, with service beginning in July 1973, these companies can begin service on rented channels this year, switching to their own satellites after they are launched in 1974 or 1975.

Four main differences in communication technology will distinguish the 1975–80 period from the present. First, domestic communication satellites will lower many long-distance communication costs (other than voice telephone) and make distant locations accessible. This will permit the expansion of computer information networks on a national basis with costs independent of distance and significantly lower than present long-distance data communication costs. It will also boost the growth of cable television by providing economical national interconnection, thus greatly expanding the program availability in each location. It will permit remote communities (for example in Alaska and in the Trust Territories) that are now without reliable communication by telephone, radio, television, or otherwise to be connected to the rest of the society. This process is starting in the Canadian arctic in January 1973 on a small scale and is being demonstrated via an experimental satellite in Alaska. In Alaska, library story hour programs originated in Fairbanks, Juneau, or Anchorage are being heard in remote Indian and Eskimo communities previously lacking radio or telephone service (e.g., Anaktuvuk Pass). The same satellite (NASA's ATS-1) is being used regularly to connect a computer terminal in the hospital library of the Alaskan Native Health Center in Anchorage with the Medline service of the National Library of Medicine (via a Stanford University ground station and a terrestrial computer communication network linking the west coast with Bethesda). These are small forerunners of the future. Most of the effects of satellites will be in reducing the economic effects of distance on communication, permitting rapid expansion of computer and cable TV networks on a national scale.

The second main difference will be the diffusion of video recording. We are now in a period of competing technologies (video cartridges, cassettes, and disks) and competing standards. The standards problem is in many ways analogous to the technical standards problems that delayed the diffusion of long-playing audio records in the 1940's. Whichever technologies or standards emerge in the next 2 years are likely to be rapidly diffused through society in the last half of the decade. One effect is likely to be a boost for cable television, with video disks serving for cable much the same function that records have served for radio, that is, a cheaper form of programing than could be produced through live local programing. The availability of video disks in homes may shift a significant amount of present television viewing to on-demand selection. Even if most viewers spend most of their viewing time watching programs selected by broadcasters or cablecasters, it will become generally accepted that motion-video can also be a medium accessible, like books and audio records, at times and places of the viewer's choosing. That general attitude will make a significant difference to demand for instructional and entertainment content. Whether that demand will be made of public libraries will depend in part on whether libraries encourage it by offering service. It could be argued that demand on libraries for audio services has been relatively low, perhaps because the relative scarcity of audio service offerings may have inhibited such demand. The continuing "book image" of libraries has perhaps prevented many potential patrons of libraries from viewing libraries as a community resource for information, education, and entertainment in all media. A nationwide program of expanding library service offerings via audio and video disks or cassettes in the 1975–80 period could make libraries a major source of information for all of the public, not just the book reading minority. To meet the needs of the disadvantaged, viewing carrels as well as cassette lending programs will be required. The social demand will be there, created by the general awareness of video recording that will permeate the society in 1975–80 as a result of the technological change. Whether libraries are able to obtain and allocate the resources to meet that demand is another matter.

The third major difference is the continued expansion and diffusion of computer services throughout the society. To the present, computers have been serving the major institutions of the society, government, schools, businesses, etc. There are few people whose lives have not been touched in some form by computers, whether it is computerized school scheduling techniques, revised work procedures, or computerized billing for goods purchased. Computers constitute one of the fastest growing components of the economy, as indicated by the Bureau of Labor Statistics projections cited earlier. More and more people will become more closely involved with computers during this decade.

Computer services industries are expected to grow much faster than other components of the computer industry. A recent report, "Computer Services Industry" (Creative Strategies, Inc., 1972) projects the growth as follows. They predict revenues in four segments of the computer services industry, business package software, data centers or service bureaus, time-sharing and facilities management. Revenues are expected to increase from $2.1 billion in 1971 to over $7.5 billion by 1976, an impressive compound annual growth rate of nearly 29 percent. The following table details the projection for each segment of the industry.

The report comments: "A major trend of importance, the growing

Industry segment	1971 revenue (millions)	1976 projected revenue (millions)	Annual growth rate (percent)
Business package software	$102	$325	24
Data centers	1,500	4,000	21
Time sharing	330	2,000	43
Facilities management	175	1,500	53

orientation toward communications, is seen for the industry, as evidenced by recent developments in nationwide computer networks and the increasing incorporation of data communications capability in mainframe computers. It is expected that by 1976 one-half of all installed computer capacity will include this capability. Access to more remote markets at lower costs will result from networks' growth and very significantly affect the entire industry."

The main direct impact on libraries during the 1975–80 period will be for internal library data processing (e.g., acquisition, cataloging, and circulation systems) and for library networks (just as medical libraries now have on-line time-shared computer access to the National Library of Medicine via a commercial computer time-sharing network). Both cost-saving and expanded service offering will provide the motivation for such expansion of the computer industry into libraries, but the net result may be to increase total costs by increasing service demands. The unit costs of library operations may come down, but the expanded service opportunities and demand created are likely to create pressures requiring total budget increases rather than decreases. The National Library of Medicine, the MARC magnetic tape service of the Library of Congress, the on-line library functions provided by the Ohio College Library Center to many libraries, the New York Times on-line library, and the automated Stanford University Library all provide examples of the trend to be expected in 1975–80. Another indicator of things to come is the growth of commercial on-line information retrieval services, such as Lockheed's DIALOG, System Development Corporation's ORBIT, and services by Informatics, Mead-Data Central, IBM, and others. The growth of such commercial services and increasing public awareness of them will make possible a range of services and generate an expanded demand for services that could be provided by or through libraries.

The increased use of on-line computer services in libraries as well as for management information systems in business will start another trend in a small way in 1975–80 that could grow to major proportions in the 1980's. During the 1975–80 period there is likely to be much experimentation with on-line information services for the general public. One example might be on-line library reference services permitting library users to find out what community services are available in their community and how to obtain them. The problems of managing one-stop information referral centers may be resolved through on-line techniques permitting centralized preparation and modification of records that need to be searched at geographically dispersed locations. On-line union catalogs of library holdings searchable by library users could be another example.

We can expect that computer services will diffuse through many more and smaller types of businesses and institutions during 1975–80, that a steadily increasing percentage of computer use will be for information retrieval services, and that communication and networking will dominate the trends. By the end of the decade a consumer market in computer information services is likely to be starting on a small scale, poised for rapid expansion in the 1980's. A recent Institute for the Future report by Paul Baran (1971) provides an indication of what can be expected. This report, based on an extensive "Delphi" study, projects a market of greater than $20 billion per year in the 1980's for two-way information services to the home. Education is expected to account for 35 percent of the total market.

There are already faint beginning indications of this trend toward individual (rather than merely institutional) use of computers. Volume 1, No. 1 of **"The People's Computer Company"** (1972), says, "Computers are mostly used against people instead of for people, used to control people instead of to free them. Time to change all that. We need a people's computer company." They advertise the People's Computer Center (1921 Menalto Avenue, Menlo Park) where anyone, young or old, can come in to use computer facilities, sometimes for as little as 50 cents per hour. Another indication is an article in a recent issue of **Rolling Stone,** a popular culture paper where one is more likely to expect information about rock musicians than computers. But a long feature article on December 7, 1972 (p. 50) describes the growing use of computers for entertainment, citing the game Spacewar as its major example. The article starts, "Ready or not, computers are coming to the people." The availability of coin-operated computer games such as Spacewar and Pong at coffee houses and elsewhere in or around university campuses is another portent of this future. The expansion of computers in business and government may have been just the infancy of the computer industry. That continued growth in the 1970's may set the stage for major growth of computer services for individuals and small groups, via telephone or cable television networks, in the 1980's.

The fourth major difference between the present and the latter half of the decade will be the diffusion of cable television throughout the major urban centers of the United States. Concomitant with this will be the growth of a major market in pay television. According to the 1972–73 issue of **"Cable Sourcebook,"** there were 6 million cable TV subscribers in 1972. Their data came from compilations of FCC records. The new FCC rules that went into effect on March 31, 1972, and the minor modifications made in the summer of 1972 concurrently with the denial of most petitions for reconsideration, now provide a stable regulatory base for cable television. The report of the President's Cabinet-level Cable Television Task Force, not yet released, is widely rumoured to contain a recommendation for legislation making cable television a common carrier, but only after a long transitional period permitting cable television to grow under current regulations.

The immediate result of the rulemaking was a wave of corporate acquisition and mergers that have converted what was formerly characterized as a "Mom and Pop" industry into a consolidated industry in which the top three corporations serve 25 to 30 percent of all American subscribers and the top 10 corporations serve nearly 50 percent (**"Cable Sourcebook,"** 1972–73, p. 3). This revised corporate structure of the industry is permitting the capital acquisition from insurance companies and other financial sources, needed for a major expansion program in the next 5 years.

Spurred by the distant signal importation permitted by the new rules and the opening up of pay TV markets, cable is likely to grow in the late 1970's and early 1980's at a rate approaching that of the diffusion of television itself in the 1950's. The vision of a whole range of potentially profitable two-way cable services in the 1980's contributes to the glamour of cable TV and the long-range optimism of the industry even though other services are not expected to provide much in the way of tangible revenue in the next 5 years. The FCC requirement of two-way capability on all new construction in the top 100 markets and the economic attraction of home digital response terminals for pay TV program ordering will provide the carrot and stick to install at least the limited two-way capability that will permit experimentation with other two-way services (including information retrieval and other library-like services) in the latter part of the decade. Early technical demonstrations of such services have been conducted by the Mitre Corp. on the Reston, Va., cable system. Their December 1972, report, "Interactive Television" (Mitre Corp., 1972) summarizes past experiments and discusses future plans for a series of demonstration projects.

As indicated above, developments in computer services, in video technology, and in communication satellites are likely to have impacts that will further spur the growth of cable television in the 1975–80 period. The net effect will be what the Sloan Commission on Cable Television referred to as the television of abundance (Sloan Commission, 1971). There will be more channels of video information and entertainment to choose from; there will be pay television by the channel and by the program in addition to advertiser supported television; there will be more on-demand access to video through video disks or cassettes and through video "request" programs on cable analogous to radio shows playing records requested by listeners.

What will be the effect of these four technologies on the need or demand for public information services? Conventional market research techniques are not very satisfactory for estimating demand in technologically changed circumstances. Some interview respondents will willingly "play science fiction" with the interviewer and project many potential uses and demands in the projected technological environment. Unfortunately, they may not be good predictors of their own future behavior when the environment really does change. Other interview respondents, less able to visualize or accept the predicted change in technological environment, may respond as if their environment won't change, that is they predict a continuation of their present behavior without change. They too are not necessarily good predictors of their own future behavior when the changed environment forces some kind of adaptation to changed circumstances.

The strongest indication of changing demand for information services is the past and predicted expansion of the services made possible by the four technologies we have been discussing. We seem to be in the midst of a chain reaction process (possibly the same one started by Gutenberg) in which information technology lowers the unit cost and increases the availability of information, generating more demand for information that sparks new advances in technology. This chain reaction process of new technology generating new demand is likely to continue for the foreseeable future. Although difficult to quantify, all indications are that information demand is the fastest growing in the economy with no leveling of demand in sight. The previous "information explosion" and "information input overload" problems resulting from having more information already available than we know how to process, have not resulted in any decrease in demand. Instead, they have generated a need for more individualized information channels and information filtering techniques so that each individual can select what he wants or needs from the mass of information available in the society.

The electronic mass media have extended media access to the entire society in a way that print never did, despite near-universal literacy. But that mass availability of video on a limited number of channels (in some communities not even all three of the major television networks) may be just the start of the video information explosion. The growing proliferations of media content, both print and video, becoming available for on-demand access is also creating a great demand for techniques for learning about the availability of media content and obtaining access to it. Fortunately, computer information systems are being developed to solve this access problem, but inevitably generating further demand as a result.

Of special concern to the National Commission on Libraries and

Information Science should be demand created for public information services, such as those provided by public libraries and government agencies rather than by profitmaking companies. If the private sector of the economy was effectively meeting the information demand at progressively lower unit costs and if incomes of all segments of the population were rising such that all could afford the information services they wanted or needed, then there would be little need to increase or even maintain the existing level of public information services. Unfortunately, the trend, at least in the short run, will be for the information rich to get richer, and the poor to get left behind. Those with higher incomes (who are usually those with better education and better information processing skills) will have both the money and the skill to effectively utilize on-demand information services available through the private sector of the economy. They are also more likely to recognize the value of information. The people who most need information and education are less likely to recognize the advantages information can bring them, are less likely to have the skills to most effectively utilize information resources that are in principle available to them, and have less money to buy it. This gap is likely to progressively widen as more information services are made available through the private sector of the economy, unless public sector information services keep pace by expanding their services at a comparable rate. If those who are born poor in our society are ever to have anything approaching equal opportunity, then the one resource that should be freely available to them should be education and information. Not all will recognize the need and take advantage of the opportunity, but a significant number may well do so if given the chance.

The separation between the private sector and the public sector of the economy is far from complete. Government regulatory actions (e.g., by the Federal Communications Commission) can stimulate or inhibit the development of private sector information services. Many of the public sector services are, in fact, purchased from the private sector (e.g., school textbooks, school construction, library books, and library buildings). What heppens in one sector influences both the kinds and costs of services that are available in the other sector because of the variety of interactions, including cost reductions resulting from economies of scale. In our present and foreseeable economy it would be impossible to provide all the information services the society needs through public sector services. But government policy needs to be concerned with the entire problem, not just what has previously been the public sector component. Structuring and regulation of private markets to meet as many of the information needs of society as possible would permit available public sector funds to better meet information needs that cannot be met in the private sector.

One example of such an information policy relates to public television. Some of what is available on public television consists of cultural programs that tend to attract a small but affluent middle class audience. They are available on public television partly because the commercial television mass advertising market hasn't made it possible to economically serve such audiences. But the middle class audience could undoubtedly afford to pay for the programing if there were a viable payment scheme. Conversion of such programs to a self-supporting pay TV operation could free those resources for meeting the information needs of the less affluent.

The example is not cited because it is necessarily the right approach for public television or any other public information service. Rather, it is intended to make the general point that public sector funds may be more efficiently spent if public policymakers and advisers look at the possibility of structuring private markets, as well as proposing public services.

The net impact of the information technology changes affecting public libraries during 1975–80 is likely to raise expectations of and increase demands of an increasingly media-sophisticated user population. The provision of pay video and computer information services to those who can afford it will not reduce demand for public information services. Rather, general awareness of the possibility and availability of such services is likely to greatly increase demand for libraries to provide such services also, at least for those who can't afford them any other way. The new technology (particularly computers) may permit libraries to reduce unit costs for some operations (provided there is cooperation on a sufficient scale that the economies can be obtained). But the lowered unit costs are likely to generate additional service demands that have a net effect of requiring increased total budgets. The new technology will permit a range of new services (e.g., video libraries or computer information retrieval services) that also generate new demands and require increased budgets.

The technology of national information networks (whether by satellite or terrestrial system or some combination) will permit greatly expanded interlibrary networks in the 1975–80 period and permit limited experimentation with library-to-patron networks connecting libraries to homes via two-way cable television systems. Neither national nor local networks are likely to be economical for library service alone. But general purpose networks (possibly by satellite and cable television) may permit economical library service as one of many services sharing network costs.

IV. Social Trends

The concern of this essay in risking to enter that uncertain domain of social trends is to look only at those trends that could have a major impact on the demand for public information. Other trends are ignored. In an attempt to differentiate longrun trends from short-term fluctuations, trends are discussed only if they seem to be grounded in some underlying change in the technology or economics of the society. This criterion is based on the assumption that ideas and fads may come and go in the short run (periods of 5 years or less), stimulated by words and ideas and reactions to those ideas, but that lasting trends reflect underlying economic and technological change in the society. (This assumption does not deny that ideas don't in turn influence technology and economics. It merely asserts that in the time scale of looking at 1975–80 from 1973, the dominant effects will be of economics and technology on ideas, rather than the reverse.)

NEW PLURALISM

Our society has always been a pluralistic society, despite many forces acting in the direction of homogenization. We began as a union of sovereign states in a country containing vast regional differences of geography, climate, and economic resources, with people rich and poor, slave and free, native and immigrant. The wave of European immigration in the 19th century added new diversity of language and culture. Much of the diversity was lost as the union of states was forged into a single nation. A westward movement subjugated or destroyed the native Americans as the newcomers' culture was imposed on the continent. Distinctions between slave and free were eliminated after a civil war. A public school system built on a "melting pot" philosophy worked to reduce language and ethnic differences. Improved transportation and communication systems interconnected geographic regions in ways that increased interdependence and somewhat reduced cultural diversity. Geographic and social mobility opened most segments of society to influences from other segments.

Nevertheless, there were always strong pressures to conformity within each segment of the society. Based partly on geography and partly on socioeconomic class (which was itself often reflected in the geography of neighborhood boundaries), there were homogenizing pressures within each segment of society. That is, within each social grouping (usually delineated geographically) a tendency to reject those who differed from the local social norms and the reinforcement of conformity to cultural expectations was strong.

Now, the relentless pressure of improved social mobility (partly a result of improved economic conditions), physical mobility (a result of improved transportation technology), and psychic mobility (a result of improved communication technology) has served to reduce geographic differences in cultural style and at the same time introduce greater diversity into each geographic location. The improved economic condition of the society (for example, as compared to the depression of the 1930's), has meant that conformity to prescribed standards of behavior is not as strong a condition of economic survival as it once was. Some of the range of diversity that could previously be seen only by crossing geographic boundaries is now more evident within communities. As the proportion of people in the population with memories of the 1930's depression declines, this trend is likely to continue. In the absence of strong economic pressure forcing conformity as a condition for basic survival, the expression of the wide range of individual differences that characterizes humanity will emerge. Communication media and geographic mobility provide the models and economic security provides the opportunity.

Continuation of these trends toward a philosophy of tolerance of diversity, or acceptance of people "doing their own thing" is likely. The result appears to be the development of a multitude of subcultures with much different characteristics from the cultural variation of previous generations. Instead of each individual being in one subculture characterized by his race, occupation, geographic location, etc., that is stable over a long period of time, more and more people have simultaneous multiple subgroup (or subculture) memberships and belong to different subcultures at different points in time. Further, there are fewer geographic restrictions on subculture membership. People may belong to an occupation-oriented subculture with one circle of acquaintances, a recreational subculture with a different circle of acquaintances, belief oriented subculture, such as religious or political groups, and a neighborhood subculture. Unlike earlier times of lesser mobility, the number of different subgroup memberships seems to be increasing.

In the early 1970's there are some signs of a reaction against the "countercultures" that began to develop in the late 1960's. But this seems to be a minor ripple on the dominant trend. The basic values of the younger generation and of the more stable components of the "New Left" are surprisingly similar to the libertarian views that are usually associated with "conservative" economic philosophies. Among both conservatives and liberals there appears to be a trend away from paternalism and toward greater acceptance of more libertarian notions of individual freedom and responsibility.

The changes in information needs resulting from these trends is leading to changes in the mass media environment of the society in a way that leads to an acceleration of the trend. The death of mass circulation magazines (of which *Life* is the most recent in a long series of mass magazine failures) has received much publicity, but the magazine industry as a whole is thriving—with special interest magazines leading the way. Cable television and the coming of pay television in this decade will mark the beginning of a similar trend in electronic media. The trends toward pluralism and diversity in society and in the mass media are likely to provide continued impetus for each other for the foreseeable future.

The trend is toward specialized media services that don't fit geographic boundaries. Some may deplore the end of the "melting pot" of simultaneous nationwide exposure to very similar media content. Others may deplore the near complete erosion of local community control over local media content. But the trend seems inevitable. Instead of a small group of people determining the content of a sender-oriented mass media system, the incursions of pluralism and diversity are generating a media system more specifically tailored to specialized interests of subgroups in the society. The ultimate extension of this trend is to a mass media system that functions very much like libraries—with individualized on-demand access to information.

The major implication for libraries concerns networking. Interconnection of libraries will be essential to make information available from an increasingly diverse body of knowledge to an increasingly diverse clientele. It will become more and more difficult for any local library to afford to store the entire range of information needed in its immediate geographic location, because information needs may be less determined by geographic boundaries. Local libraries may need to become one-stop switching and referral centers, interconnecting their clients to the appropriate place in a more complex national information network. The increase in diversity of information needs in each geographic location coupled with reduction of diversity among different geographic locations will increase the need for such referral services.

OPENNESS OR PRIVACY IN INFORMATION ACCESS?

The trend toward more openness and greater freedom of access to information is a dominant trend. The demands for less secrecy in government, greater public disclosure of corporate and product information, and greater freedom of access to information generally are likely to continue. Continuing increases in the average level of education in the society and improvements in information technology making information access technically easier will continue to provide fuel for this trend. The apparent countertrend toward more concern with privacy is not contradictory. Rather, it is a reflection of the need to provide safeguards against abuse as the general trends make it economically and technically easier to obtain access to information. Often, the appropriate response to what at first glance appears to be an invasion of privacy problem may turn out to be a more widespread access rather than greater secrecy.

For example, the requirement that the information in credit bureau data banks be more widely available (especially to the persons whose credit is being rated) seems a more satisfactory solution to credit bureau data bank abuses than restrictions on input to the data banks.

The implication for libraries is that there will be continued pressure for more information (especially government information) to be put in the public domain. At the same time there will be more demand for easier access to information that is nominally in the public domain. Whether the issue concerns actions of an executive branch agency or financial disclosure statements of elected officials, there is likely to be increased demand that such information be available locally (for example, through the local public library) and not just in some practically inaccessible office in Washington. The use in consumerism, and in greater citizen participation in decisionmaking (e.g., as indicated by the rise of Ralph Nader's organization and Common Cause) are symptoms of this general trend.

TRENDS IN EDUCATION

The area of social change with the most direct impact on information need or demands is education. As the average level of education increases, the aggregate demand for information increases. But income also tends to go up with education, making it easier to obtain information from commercial sources and possibly reducing (relatively) the need for free public information services. Increased school library services may reduce immediate demand on public library facilities but generate a greater awareness of and dependence on libraries that results in long-term continued demands for public library services. But these trends may have only minor impact relative to the dominant changes within education which appear to be shifting education (particularly continuing education) in the direction of on-demand access to instructional resources. Since libraries have been the public institution most directly concerned with providing on-demand access to information and instructional material, this trend raises serious questions for library policy.

Changed conditions in society are placing three demands on educational institutions: Equality of access to educational opportunity, lifelong learning, and diversity of curriculum content.

(1) Demands for open enrollment in institutions of higher education are increasing, but the limitations of classroom and laboratory space and the costs of teaching personnel may make it difficult for many institutions to respond to those demands. In the Open University in the United Kingdom, television is being used to provide higher education to those not served by the traditional universities. This concept could be extended here to include all levels of education. Thus any person would be able to

attempt any course he wanted to without requiring classroom space or teacher time. If success were rewarded without failures being recorded or there being other potential penalties for the student, many inhibitions about learning might be avoided and people might find their own levels of ability without others telling them what they can and cannot do. Regardless of economic efficiency, political and moral judgments will eventually require the provision of educational systems providing equal opportunity of access to education.

(2) Formal education learned early in life can seldom last a lifetime. The need for periodic (or continuous) retraining is particularly great in occupations with a large scientific or technical component (for example, medicine, engineering). It seems unlikely that the concept of industry sabbaticals could be quickly implemented as a response to this need. Night school classes may provide a partial answer for some, but busy people or people with irregular schedules are often unable to make the kind of commitment required. Convenient, readily accessible educational materials are needed.

(3) The trend in mass media and in education itself is toward more variety. This cultural pluralism is already evident in the variety of special-interest magazines available and in the decrease in the number of mass-circulation magazines now published. The diversity of curricula now available to students lags behind the variety of occupations and interests available in society. Because it is already evident that no fixed curriculum will meet the present requirements for relevance and variety, the logical culmination of the situation is the provision of completely individualized instructional materials—a state we are unlikely to attain without significant technological help.

If we project the labor costs and the building costs of meeting these three educational needs by traditional means, the projections become absurd. No matter how rich a society we become the percentage of resources needed would be too high to permit other essential activities.

Any policy that attempts to face these demands (or needs, or trends) in education will have a major impact on libraries. If new institutions are developed to provide on-demand instructional services, they would be providing service that has been a traditional function of libraries, hence potentially reducing library demand. (Alternately, it is possible that, as with other forms of education, more education will lead to more demand for library services.) The maximum increase in demand for library services would result if policies were developed to make libraries the primary institutions for on-demand access to instructional modules in a wide range of media over a wide range of subject matters.

The main reason why the growing demand for instructional services has not resulted in greater pressure on libraries is that our society lacks a general way of providing accreditation for self-study. In order to obtain economic benefits from further instruction, many people need (or think they need) certification for what they have learned. Most educational institutions providing certification for learning are themselves providers of instruction and do not provide certification for what is learned elsewhere. A national examining university providing credit for self-study programs, if coupled with provision for public libraries to expand their print services and provide a variety of audio, video and possibly computer-based instructional modules, might be the most cost-effective educational investment possible. By utilizing existing institutions in a way that requires little in the way of new teaching staff or school buildings, major economies could be achieved over alternate schemes for achieving comparable levels of service.

POLITICAL PARTICIPATION

More people are becoming involved in political activity at all levels of government. One consequence of this is increased demand for information about the decisions and the decisionmaking processes of government agencies and committees. Some of the pressure toward less secrecy in congressional committee deliberations may be a consequence of this trend. Reforms requiring disclosure of political campaign contributions are another example. One result of this continuing trend will be increasing demands for accessibility of government information that is legally "public" but difficult to obtain. Another will be increasing pressure to transfer more information into the public domain. A national policy to develop systems and techniques to reduce the cost of access by citizens to public governmental information may be an appropriate response to this trend.

V. Policy Implications

The general economic, technological, and social trends influencing the United States in the 1970's are certain to have a major impact on libraries and other institutions currently concerned with information production and distribution. Because so many of the expected shifts in the economy and technology are changes in the amount and the costs of information processing, traditional institutions concerned with information transfer should structure their policy planning within the general context of those trends. Otherwise, the policies that will have the most effect on libraries will be made elsewhere and libraries will be reduced to the role of passive observers of trends they are not effectively influencing or controlling.

The general areas of policy consideration can be subsumed under four general headings. First is "National Science Policy." The second is "Education Policy." The third is "Technology Policy." The fourth is "Library Policy." The first three are more likely to determine the role and function of libraries in society than is the fourth.

SCIENCE POLICY

Recent changes in U.S. science policy have emphasized a shift away from supporting basic science or knowledge for its own sake as the primary goal of science policy. The new emphasis is on the development of science and technology that will help solve national problems or lead to increased economic growth. President Nixon's announcement in January 1973 of the abolition of the Office of Science and Technology and the President's Scientific Advisory Committee signaled a formalization of the shift. The transfer of responsibility for Federal science policy to the National Science Foundation, with NSF reporting to the chairman of the Council on Economic Policy, is a clear indication of the new context for science policy. The reorganization included establishment of a Federal science council, reporting to the Director of NSF, to coordinate all government agency research and development programs, and the establishment of the Science and Engineering Council to provide NSF with advice from academic and industrial scientists and engineers. The rapid growth within NSF of the program on Research Applied to National Needs (RANN) is another example of the general science policy.

This general shift in science policy calls for a corresponding shift in policies for scientific and technical information. Much of earlier science information policy was concerned with information support for science and technology. Now a larger and even more challenging mission has been added. That is to develop information policies that will facilitate the application of scientific and technical information to solution of national problems and to facilitate national economic growth. In other words, in addition to maintenance of present information systems in support of science, information systems need to be developed to improve the flow of information between science and the rest of society. That information system needs a two-way flow, so that society can maximally benefit from the "production of knowledge" and so that the scientific community better understands the problems for which they are asked to seek solutions.

Since the National Science Foundation now has the responsibility for both formulation and implementation of science policy, the National Commission should work closely with NSF in developing plans for new information services to meet the needs imposed by NSF's new mission.

A recent report by the Organization for Economic Cooperation and Development (OECD) contains a series of recommendations for national policy on scientific and technical information (OECD, 1971). That report, "Information for a Changing Society – Some Policy Considerations," makes it clear that such policies must be formulated in the context of a more general approach to the problems of information and society. The transmittal letter from study group Chairman Pierre Pigainol to the OECD Secretary-General focuses on the central question of economic growth. He says, "What are these hard facts? Obviously the central one is economic growth . . . The problems of scientific and technical information seem to be closely linked with economic growth . . ." The detailed recommendations of that report warrant careful examination.

If the economic arguments concerning the growing importance of information for economic productivity are heeded, an expanded program of research and development on the role of information in society is called for. Investment in the science and technology of information processing may provide as much of a spur to economic development as investment in information services for science and technology.

One subarea of research on information desiring special attention at this time is the economics of information. There are too few economists working in this area, and many promising avenues to explore. The goal of a cohesive program of research on the economics of information should be better understanding of the relationship between investment in information services and economic growth.

The National Commission might work with the National Science Foundation (and its Office of Science Information Services) to develop plans and recommendations for an expanded program of research and development in information science, including studies on the economics of information.

EDUCATION POLICY

The need for economical open access to education by every member of U.S. society throughout his or her lifetime is now being articulated because it is technically possible to meet that need in the next two decades. The type of on-demand access to self-study materials that has characterized libraries since their earliest days can be extended on a broader scale throughout the society through electronic media. As the technology develops and understanding of its potential spreads throughout the society, the need will become expressed more stridently.

The development of facilities and institutions for alternate education or "lifelong learning" will create special demands on libraries. Open universities will require expanded service offerings by local libraries. Planning for open university services or experiments should include plans for increasing library resources to support such activities. One form of "open schooling" that could be experimented with is the development of learning modules (in print, audio, or video media) that could be made available through public libraries for self-study programs.

Development of a national examining university to give academic credit or recognition to learning through self-study programs would provide a major stimulus for and recognition of such programs. Developing an examining university that does not itself give courses may be the most economically productive option in the range of alternate education proposals.

INFORMATION TECHNOLOGY POLICY

Libraries have for the past few years been discussing prospects for library networks. Unfortunately, specialized networks linking libraries together are usually expensive and seldom can be shown to produce benefits that justify the costs. If general purpose broadband electronic networks were available for communication of data and text throughout society, the social and economic benefits could be enormous. Library networking would constitute only a tiny fraction of the use of general networks, with business and other government services providing the bulk of the traffic. The resulting economies of scale would mean that library networks could be provided at an affordable incremental cost. The main justification for development of such networks would be for the general economic growth and improved social services that could result.

Two recent reports (one American and one Japanese) strongly recommend major investment in improved information technology as the key opportunity for improving economic productivity.

The most recent report is the U.S. study published in December 1972 by the Conference Board, titled "Information Technology: Initiatives for Today – Decisions That Cannot Wait." This report is particularly significant because it represents a set of policy recommendations, many requiring Federal action, prepared under the direction of a prestigious organization of influential business executives, the Senior Executives Council of the National Industrial Conference Board. The recent report is Part Two of a major study of information technology. Part One, published in January 1972, titled "Information Technology – Some Critical Implications for Decision Makers," consisted of nine background papers discussing probable development in the information environment during the 1970's and 1980's.

The primary motivation for their policy recommendations is the improvement of U.S. economic productivity. One is left with the impression that building a broadband digital communications infrastructure for the society and developing the kinds of information services such an infrastructure would permit is the major opportunity for U.S. economic growth in the next decades. One is reminded of the economic growth made possible by the development of railroads as the major transportation infrastructure in the 19th century. Their concern is with information policy questions that extend much more broadly than libraries. With respect to libraries they say (p. 5), "What happens, for instance, when existing public information systems, such as libraries, are made obsolete by a network of automatic storage and retrieval systems?"

One of their key recommendations is, "Create an independent nonpolitical center with the capability to formulate alternative national policies in the area of information technology." They suggest such a center might be created at the behest of the President. They don't consider the possibility that the existing National Commission might take on some of those functions.

The second report that deserves careful consideration is the 1972 Japanese "white paper" discussed earlier in this essay, recommending a series of detailed steps for Japan to take in the development of "The Information Society," steps they feel are necessary to maintain 10 percent per year compounded growth rate in their economy. (The Conference Board report quotes extensively from a preliminary 1970 version of the Japanese white paper.)

These reports, themselves a result of the underlying economic and technological trends that are the subject of this essay, point to a significant policy implication of those trends, namely, that implementation of a coordinated national information policy is likely to produce significantly higher rates of economic growth than would otherwise obtain. This opportunity (especially when viewed in the competitive context of Japanese and European economic growth rates) may constitute the most significant information need of the United States in 1975–80. This need is for investment in information technology for economic growth. The proposal is to develop a technological information infrastructure that significantly lowers the unit costs of storing, retrieving, processing, and transmitting information. Such a need does not deny the demands of different individuals and groups in society for "consumption" of information, but it does put any cost-benefit calculations of the value of such information services into a quite different perspective.

The policies needed for development of the broadband information networks will require many novel features. Much of the investment will be made by the private sector of the economy. Federal funding may be appropriate for research and development activities and to pay for costs of public sector services (such as library interconnection and other education services) utilizing the networks. Many of the policies would be concerned with structuring of private markets such that sufficient incentives are available for orderly economic development. Some attention would have to be given to questions of technical standards and to regulatory policy (e.g., by the Federal Communications Commission). Federal policy may be more effective, however, if the influence on private investment is more through positive economic leverage than negative regulatory sanctions. Voluntary standards may be sufficient without requiring mandatory standards if government funds are available for purchasing communication services from those suppliers who meet the standards.

The National Commission may wish to coordinate with the Department of Commerce, and especially its National Bureau of Standards and Office of Telecommunications, in the course of developing policy for information technology development.

LIBRARY POLICY

Several conclusions regarding kinds of library services that should be made available can be drawn from the economic, technological and social trends discussed above.

1. Expanded audio and video services should be provided in response to the general shift toward greater use of such media that will occur during the rest of this decade.

2. Greater emphasis on information for the information poor will be necessary to partially counterbalance the likely widening of the gap between the information rich and the information poor that will result from increased commercial development and exploitation of information technology (including pay television).

3. Switching centers and referral services should be developed so that libraries can come closer to meeting the widening diversity of information needs, even though it may be uneconomical to provide a full range of service in each local library.

4. Consideration should be given to improving access of each citizen to public information about government services and government decision making at all levels. Minutes and supporting documents of all local government boards and committees could be made more accessible through local libraries, for example. Within a few years a national network of Federal Government information could be made available to local libraries via computer time-sharing and information retrieval techniques, just as medical references are made available to the medical libraries by the National Library of Medicine's MEDLINE system. Computerized congressional information systems now being developed could be made nationally accessible by the Library of Congress.

5. National service to local libraries (e.g., on-line computerized searches of the Library of Congress MARC files) could be provided (analogous to MEDLINE) to make national bibliographic information readily accessible throughout the country.

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CHAPTER 3

Speculations on the Sociocultural Context of Public Information Provision in the Seventies and Beyond*

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I. Introduction

It will be suggested here that there are certain trends in our society and culture that can be expected to have great impact on the provision of information to the public in the coming years. It is further suggested that the institution known as the public library must significantly alter the traditional paradigm of itself and its services in order to deal successfully with these trends and truly serve the public. Otherwise, the impact of these trends will be mostly negative, in that the public will tend more and more to bypass the library, except when they seek the satisfaction of certain narrowly defined needs, and they will find—or develop—alternative institutions or ways to satisfy most of their information needs.

The classical model of public information service in the United States gave great importance to the idea of the public library as a place in which any poor immigrant (or native, for that matter) could educate himself, with free materials, and could rise as high in our society as his talents could take him. In the days when formal education was for an elite, the library served in this way as a vital democratizing agent in our society. Now that nearly free open-admission education is widely available in this country, this function of the public library is waning in importance.

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*(2nd ed.)

In the meantime, another area of public information need is developing in which the public library, or whatever new system succeeds it, can once again play that democratizing role. The need to provide information for successful living in an increasingly complex society is coming to the fore. In these days of very frequent change and massive bureaucratic complexity, the citizen needs free, easily accessible "life information" just to succeed in day-to-day living.

The discussion, based on the above assumptions, will follow this sequence: After life information has been defined, a speculative model, called "organic information transfer," will be presented to show how life information has been, and largely continues to be, transmitted in the society. It will then be argued that the means of transmission are being drastically affected by certain very recent trends. Specifically, the frequency of change and the growth in complexity in our society lead to an explosion of life information, as well as of scientific information, whose growth is so often discussed. The sheer quantity and frequently changing character of this life information is overwhelming the traditional organic information transfer network. Certain elements of the society, largely commercial agencies, have stepped into the breach, but mostly in a haphazard and unsystematic way. Preliminary suggestions are made as to how libraries might play a role in the provision of life information.

How the life information explosion is being dealt with, and how it might be dealt with, will be considered in relation to two additional areas: (1) Information media, their character, and their potential relationship to public information provision; and (2) a trend of the seventies that the author calls "repersonalization," a reaction to the impersonalizing forces of the last couple of decades, which will impose certain system design requirements on any successful public information system. In a final section, the various consequences of the trends discussed will be considered specifically in relation to the design of public information provision in the seventies and beyond.

Before we launch into the discussion, a word needs to be said about the nature of this paper. The contents are speculations. Normal criteria of evidentiary support for propositions have not been applied. The purpose of the discussion is not to build a definitive picture, based on well-established scientific evidence, of how things really are in public information transfer (though there is some discussion of the current state of things), but rather to make a fairly detailed guess at where things are going.

I have engaged in this guessing game because, like many others, I believe the library field in the United States is at a critical juncture. The nature of public information needs and transmission means is changing rapidly and drastically. We need to make some bold leaps in our thinking – to plans and programs that are possibly without precedent in the field. In short, the field as a whole needs to brainstorm a bit.

By outlining this speculative model of where things are and where they are going, and developing some of the consequences for libraries of these trends, I hope to contribute to the creative process. I would be delighted to see this speculative model demolished in the public discussion and replaced by another model that is more refined, clever, and accurate. The one thing I would be fearful of would be to have no discussion or speculation about the remodeling of public library service. For it is my belief that, if the field does not move to meet the rapidly changing conditions of late 20th century society, it will moulder in increasing irrelevancy.

II. Life Information and Organic Information Transfer

By "life information" is meant information needed for successful living. The area of need ranges all the way from sheer survival (stay away from dogs that walk funny and foam at the mouth) to the most advanced forms of self-realization (where can I study ceramics or transcendental meditation?). The scope of information falling under this rubric is greater than may at first appear. It includes vast amounts of information about how to do many different things in one's culture that will be acceptable and lead to one's survival and emotional satisfaction.

We can visualize a body of knowledge containing all (or almost all) the information a person needs to function successfully in his culture. That body contains both what the culture has learned about surviving, relative to the natural environment, as well as the rules, tricks, and methods for interacting successfully with the culture itself. (The more "advanced" the culture, the more the latter sorts of information grow, relative to the former.) This body of knowledge is in a continual process of transmission from the knowing to the unknowing members of the culture. People take in the largest quantities of this information when they are children, but the process continues throughout life, especially in more developed societies, where the quantity of this information is very great. As the culture develops new knowledge, or changes old rules, the information spreads to the members through the organic network. People transfer the information through example or by (often casual) mention in conversation with friends or family.

Though we may view this process as one vital to society's survival, most people engage in it automatically and unselfconsciously.

Much of the socializing and educating processes performed by family, clan, tribe, or neighborhood—so amply documented by anthropologists and sociologists—involve life information.

As societies become more complex, the information transfer process is formalized and rationalized through the introduction of schools and the development of increasingly sophisticated communication media. This complements and does not supplant, the informal, less self-conscious means of life information transfer. I will not go into the immense questions of: (1) How much and what sorts of life information is transferred by each of the various means so far discussed—schools, technological media, informal personal contact with family and friends, and (2) What sorts of life information should be transferred by each means.

The latter question will be addressed only to the following extent: It is argued that there is a need for question-answering and continuing education information services (continuing education of a less than school course amount) in the life information area that is not now being met. Though the question of which social agencies should provide which sorts of information could be the topic of another paper, let the rough suggestion be made here that there are many kinds of information that require current answers pinpointed to the need and the individual that can not practicably be taught in schools. For example, it would do no good to teach high schoolers about which agencies to go to with a dozen different problems, because ten years from now, when they actually have the problems, the agency structure may have radically altered. Similarly, though the teenager may be exposed to education on VD, he or she may not become interested in learning all about the subject until he or she fears catching a venereal disease. Such relatively small pieces or areas of information are better provided by libraries and related information agencies than by the more formal schooling process. There is much life information that a person needs for which taking a course in school during one's "school years" or later in adult life would simply be inappropriate and out of proportion. The relative roles of the mass—and other sorts of media, as against libraries, will be discussed later.

There is another type of information source which, though it is usually not viewed as an information transfer medium, might be seen as a logical competitor of the library in the life information field; this is the agency or organization that often is the ultimate source of information—governmental and welfare agencies, professional societies, hobby clubs, and so on. Why not someone might ask, let these agencies handle people's questions in their respective areas?

Much will be said later about the complexity, in information terms, of today's society. In this society, the kinds of organizations mentioned above are as much a part of the problem as of the solution. There are so many of them, with so many overlapping jurisdictions, interests, and powers, that the poor citizen is at a loss where to begin. Now many of these organizations are developing their own information and referral components to help people out. One hears of I. & R. services for the elderly here, for the poor there. Soon, people will be needing an I. & R. service to direct them to the correct I. & R. service for their particular needs!

The previous sentence, no doubt, is an exaggeration. But there are a couple of serious points lurking within it. Government agencies maintain jurisdictional courtesies toward each other. If individual agencies or government departments develop their own I. & R. services, the user is likely to be faced, sooner or later, with the statement, "We don't handle housing (or health, or whatever), you need to talk to so-and-so's I. & R. serivce." The whole purpose of I. & R., to simplify the process of getting help, will then have been defeated.

Secondly, the library, as the traditional chief information source in the community is the logical place for this I. & R. function to reside. There need be no competition with the other agencies in the society; they would continue the service functions appropriate to their particular agency, we would continue our service function, which is providing information. The library would be the first place to go to ask for help. Sometimes, we would have information on hand to provide the final answers to questions; more often we would function as a switching center, directing people through the maze of agencies to the proper one suited to their needs.

(In addition, we might choose to move somewhat into followup and advocacy roles for our I. & R. patrons. Just where to draw that line is one of those topics worthy of another paper!)

Many public libraries have begun to get into the I. & R. business in just the last few years. As argued above, I certainly believe they should do this. But I also believe that life information is broader than the kind of information ordinarily provided by I. & R. services. Generally speaking, people use I. & R. services when they have a need that is: (1) self-perceived, (2) of a nature to lead them to actively seek help, and (3) most often for the services of some agency or organization in the society. The model proposed in the following pages will assume that in addition to such I. & R. services the library will be providing life information that is needed but not perceived as such, or information that is perceived as needed but not actively sought or not coming from an agency. There will be suggestions for SDI (selective dissemination of information) services for the general public and of ongoing active dissemination of useful life information. For example, utilizing future developments in media, the library might send capsule information bulletins (in print or aural form) over a public cable television channel into people's homes. The bulletins would contain summaries of information available on political, social, cultural, and economic issues that are "hot" in the society at any given time. While libraries would be switching centers with regard to the I. & R. function, they would also be more than that in their total life information service. They would also gather, analyze, and actively disseminate life information.

These thorny issues of which agencies should provide which kinds of information will not be further discussed in this paper. I. & R. needs will not be mentioned, but they will be assumed to be a part of the more general life information needs that libraries will be encouraged to serve in addition to the more traditional areas of scholarly and recreational needs that they serve now. Let us now turn to that informal sort of information transfer, the kind that does not come from public agencies, the organic system.

Organic, unselfconscious means of life-information-transfer still convey masses of information, but there are new developments in recent years that make this traditional pattern hopelessly insufficient for the task at hand. Norbert Wiener (*16*) argued that we are entering a second industrial revolution—an information revolution. He implied that the computer and the other newly invented or expanded communication technologies would ultimately change our economy and affect our lives as much as the first industrial revolution has (pp. 27–28). Much of the discussion in chapter 2, Edwin Parker's paper for the National Commission on Libraries and Information Science (*10*) provides ample signs that such a vision may indeed be valid.

Wiener's revolution has led to the much discussed information explosion. There have been at least two other "explosions" in recent years in our society: explosions of change and of complexity. (These are probably to some extent due to, and to some extent causative of, the information explosion.) Technology, new scientific and cultural knowledge, and their attendant consequences have been developing at an accelerating rate. These new developments bring countless changes in our lives. The "future shock" idea, a concept parallel to "culture shock," expresses the difficulty humans have adjusting when changes come too thick and fast.

But each new development does not always—in fact, does not usually—mean the death of some older technology or practice. So as a result we have more knowledge, more machines, more systems of every kind, and ultimately very many more ways these various components can combine. The result is cultures and economies vastly more complex than any known in history, and only likely to continue in an exponential curve (if it may be expressed this way) of growing complexity in the future. The amount of information a citizen needs to negotiate a satisfying and successful life in such a society also grows enormously.

Though the organic information-transfer system conveys large quantities of information from the culture to the individual over the course of that individual's life, there are still definite limits to its capacity. As an example, let us compare the matter of purchasing transportation just a hundred years ago with the same activity today. In the earlier time, a young man would learn how to buy a horse from observing his father perform the activity or hearing father or friends talk about it. He would learn the good qualities to look for and perhaps a little about the tricks of wily horse traders. The same young man today, buying the modern equivalent of a horse, an automobile, cannot rely on much traditional information when trying to decide between one company's "Piebald" model and another company's "Skewbald" model. Both are new on the market this year, have many fundamental changes in the engine, new safety features, etc.

Both the complexity and change problems can be seen in this example. There were far fewer different models of horses than of automobiles. This is the complexity problem. Only the real car buff is likely to be able to keep all the car lines straight and to have any sense of the relative advantages and disadvantages of the many models.

Furthermore, the models of horse most assuredly did not change every year! The organic information system is slow; hence, information on changes will be slow to percolate through the system. Suppose that, at the time the young man is debating between the two models, elsewhere in the country two early purchasers of the new "Piebald" model have died because the new braking system still has a few "bugs" in it and failed them at a critical moment. Given enough time, and enough such accidents, the information will trickle through the society that the "Piebald" is not a reliable automobile.

If the introductions of the new "Piebald" and "Skewbald" automobiles were the only new things that happened in that year, the organic system could easily handle all the relevant information about them. But countless new products, services, organizations, drugs, fads, etc., were introduced that year. The old channels became overloaded in transferring so much information. When this occurs, inevitably, much valuable information is lost. The problem is made worse by the fact that there will be a whole new array of changes in the following year. Information related to this year's changes will have only just begun to trickle through the society—and now a whole new set of changes must be assimilated and the appropriate life information transferred to the citizens. And the new changes will not obviate the need for the old information; the college student who buys the used "Piebald" model 2 years from now still needs to know about the poor brakes.

Not only are the traditional cultural channels for information transfer overloaded and hopelessly behind, like the stock market ticker tape on the day of the 1929 crash, but the nodes, the recipients in this information transfer network, are also overloaded. Much has been written about how the information explosion is making it impossible for a scientist to know everything that is happening in his field. Scientists have responded to this by specializing in ever-narrower fields. There is an explosion of life information now as well. But the citizen cannot respond by specializing beyond a certain point. He cannot decide to know all about which food additives are safe and which are not, and to disregard information on the dangers of new tranquilizing drugs, the VD epidemic or the likelihood of fatal botulism in a bowl of soup. The same goes for the more positive, growth-related sorts of information. A father's degree of success in helping his son find the college that is best suited to his needs will have ramifications in terms of the son's survival and success for the rest of the son's life. Yet it is unreasonable to expect the father and son to become experts on the thousands of colleges in the country.

Having noted the life-information explosion and the unacceptable burden it places on the organic information-transfer system, we should now note some of the ways in which society has moved to compensate for the overload situation. Schools have already been discussed. Many of the other compensations are unconscious, in information terms. That is, society has developed ways of dealing with the overload that are helpful but are not based on conscious planning to optimize information transfer. Business may move in to take up a market vacuum, or some new medium is used to transfer information formerly sent through the organic system; e.g., television or radio is used to announce the can numbers of botulism-infected soup. The many media involved in the change and complexity explosions are also used to convey information.

But it can be argued that these compensatory mechanisms are often not satisfactory. First, though many media may be available for information transfer, humans have a limited channel capacity. It has already been implied that the ideal successful human in this society would have to have an enormous channel capacity to take in all the information he needs. Clearly, the limited capacity that the human has must be optimally used and used in conjunction with carefully planned referral mechanisms. This would allow the citizen to link in with other individuals or systems that can be relied upon to filter and make an honest judgment of relevant information. Current mass media do not do this. Small bits of certain information are repeated endlessly, while masses of other relevant material go untransferred.

Second, many of the available media are devoted to profitmaking pursuits—a goal not usually coincident with optimal information transfer. To refer back to the earlier example of the purchase of the "Piebald" automobile, the manufacturer conveys certain useful bits of information about the car in his advertisements; it is unlikely that he will announce that two early purchasers have died because of the faulty brakes.

Lest we overstate the case (or oversimplify), it should be noted that many of the compensatory means are satisfactory. A great deal of useful life information is conveyed in the schools (including adult education), through mass sales of books such as Dr. Spock's, through educational television, etc. But it can still be said that the life decision-making in this country does not have the high-quality input it should have. There is much more life information that needs to be transferred, and the problems with limited human channel capacity justify more deliberate and rational planning for life information transfer.*

Such a planned system should consist of many modules to deal with many different kinds of information. For example, one module may deal with the dissemination of instant alert information that the whole public should know about immediately, while others will deal with less critical data. Information technology and communication channels must be used in a way that maximizes the transfer of each type of life information to those who need it. Similarly, since the problem here is one of information overload, the specific systems for information organization (classification or indexing systems) will have to be developed into much more efficient devices, better able to pinpoint needed information rapidly. Techniques of reduction of the raw information itself must also be used. In science, this is being done not only through standard abstracting techniques, but also through information analysis papers, where the data are critically analyzed and reduced to essential elements by an expert in the field. Some parallel technique should be developed for the handling of life information. It is beyond the scope of the writer to try to describe such a comprehensive system in detail, though some suggested characteristics will be presented in the last section of the paper.

This suggestion that the society must self-consciously supply needed life information turns up another problem. The old method was automatic, built into the culture. The duller or more isolated individuals in the society would tend to absorb less of the vital information, but on the whole the organic method of information transfer was fairly equitable and efficient, in that most of the information was available to most of the citizens, if they had the wit to pick up on it. Because of the existence of this effective, unconscious information-transfer system, most people are not even aware of needing information in the survival/success terms that have been used in this paper. They have always absorbed most of what they needed along this line automatically and unthinkingly. They do not **value** information. (Information in the more colloquial sense still has connotations of relative superficiality, as for example, directions on how to get to a friend's house, or the datum of when a train leaves.) They do not yet see themselves as living in the information revolution, to come back to Wiener's term. They value the tangible manufacturing products of the first industrial revolution but not yet the intangible information of the second revolution.

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*Much of this information is technically available, but is either so hard to get to, or requires such skill in searching that the average citizen makes the perfectly reasonable cost/benefit decision to act without attempting to access the desired information.

But there already are some smarter people (generally the better educated, affluent) who do recognize, at least in a beginning way, the growing significance of consciously acquired information for survival/success. Parker mentioned what is often called the Matthew effect, the problem that the information-rich get richer, and the poor get poorer. The information-poor will continue to rely on the old unconscious system. They will be slow to recognize the need for deliberate information-gathering action. The information-rich, reinforced by the success resulting from previous information use, will do more and more deliberate searching for information. Parker has suggested that systems be designed to reach the information-poor; this model of the situation lends reinforcement to his proposal.

But there is yet one more problem suggested by this model of the information transfer situation. The information-rich will be richer than others in more than information. The logical conclusion of much of what has been said needs to be stated explicitly. In this new age, information will determine who does well and who, poorly, in life. Those people who are better information-searchers and information-selectors, or who, for whatever reason of luck or special favor, have access to the best quality information, will be those with the competitive edge in life.

This situation has always existed in some areas of society—the fascination with both horse-race betting and playing the stock market is probably at least partially derived from the feeling that he who has the best information (information that is not in the general organic information-transfer system) will win. Now the situation is ballooning to cover more and more areas of society.

The inevitable result will be that some people will see that if they can keep some information from getting wider dissemination, they will continue or increase their competitive edge. This too, has always been true in some areas, but in an increasingly complex information society, it will be true in more and more areas of life. This situation is likely to be aggravated by the very great quantity of information that is around. With new changes and developments happening so frequently, it will be possible to keep some pieces of information secret for a long time, simply because they are—in a manner of speaking—lost in the crowd.

In this regard, it is significant to note the shifting meaning of the first amendment to the U.S. Constitution. In an article in the April 1973 Atlantic Monthly (*11*), Charles Rembar points out that freedom of speech has historically meant freedom to express opinions. In the recent flurry of first amendment cases, however, the emphasis is on the "right to have access to facts" (p. 47). Both the Pentagon papers case and the issue of the newsmen revealing their sources center around the revealing of facts. In this complex era, the right to hear mere opinion is not enough. The maker of success is information. It is inevitable that the society must adjust and develop a new body of law guaranteeing equitable handling of information.

Let us turn now, however, to the consequences of this new situation for public information delivery. Disregarding for the moment the more controversial kinds of factual information, there is still plenty of information that the citizens can benefit from having access to. On the other hand, as pointed out above, there will be a growing number of people who will see the advantages of keeping high-quality information for themselves and who will try to "corner the market" on it. It is a natural extension of the democratic principles of our society that all citizens must have equal access to information in the public domain. The public library, or its information system succesor, if it recognizes the new realities, may then be thrust into the position of being a defender of one of the basic rights of the citizen. It will become a vital democratizing agent in our society by equalizing the opportunity for all citizens to have access to the highest quality information available.

III. Media Developments

Reference has already been made to the multiplicity of media available for information transfer. There are marked differences in the nature of these various media that have been understudied by us in the library/information field. Some media appear to be better than others for transferring certain kinds of information. We have only to note the impact television had on radio programing to realize that the continual development of new media that has marked our era is bound to have effects on the preexisting media. For a field traditionally strongly associated with one or two forms of print, we are remarkably indifferent to the possibility that new media may bring shifts in the use patterns of older ones. Historically, new media have not driven out existing older media for the most part, but they have brought about a reshuffling of what information gets sent over what channel. Library/information service probably will not disappear either—unless we insist on clinging to outmoded media and practices—but on the other hand, we cannot expect to do anything like the best possible job of serving our public unless we understand the nuances of the various media better. This requires more intensive analysis of the nature of media than has yet been done in our field.*

As a way of suggesting the sorts of results that might accrue from such an analysis, the following speculative consideration of the relationship between books and other media is presented. First, to introduce the discussion, consider this colloquial appraisal of books vis-a-vis other media provided by Joyce Maynard, a student at Yale who writes of her experiences growing up in the sixties:

> I can't say that none of us read books, but certainly we weren't a generation of readers. We never had to read—there was always TV, and so we grew accustomed to having our pictures presented to us, our characters described on the screen more satisfactorily, it seemed to many of us, than five pages of adjectives. Once accustomed to television, we were impatient with book dramas: they moved so slowly, took so much effort, required us to visualize things. (8, p. 64)

Might it not be that television and videotape are more vivid presentors of fiction (and certain kinds of nonfiction as well) than books? And that because these media present material that is more vivid and immediate, people will tend to prefer them to books?* And further, that they might prefer to receive life information through these media as well?

It will be argued here that several factors have operated to keep these preferred media (preferred in the sense described above) from having their full impact on book use. When these factors are eliminated or ameliorated, book and other print material use may really decline or shift to a markedly different pattern of use.

Widespread, cheap, commercially available videotape will have a great impact on book reading. Book reading has always been a minority activity, generally most popular among the better educated. Television has not touched this as much as it might because much televised material is unattractive to the better educated, and hence, does not generally succeed in drawing them away from books. Commercial television is not currently set up so that users may watch what they want when they want. Home videotape allows the latter by its nature. Further, if videotape develops in the same pattern as phonograph records, then minority tastes, specifically, the tastes of well-educated book readers, can be profitably satisfied. Both television and books will probably lose to videotape once the latter is well-developed. Cable television offers some of the same flexibility as videotape, and may also take a bite out of current book and commercial television use.

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* "Media" as a separate indexing term is not even used in **Library Literature**, and there is no equivalent category in the **Information Science Abstracts** classified scheme.

*In a research study the procedures and results of which are both too complex to review in detail here, Parker (9) found per capita library circulation adversely affected by the introduction of television into a community, with fiction circulation (as contrasted with nonfiction) taking most of the decline.

One reason that audiotape cassettes have become so popular and have stolen some of the thunder of phonograph records is that the form can be made portable more easily. (Even the smallest portable phonograph player must remain level and stable.) When videotape achieves audiotape portability, one of the last advantages of the book will have been overcome.

If the above-mentioned changes in technical capability do come about, what would the new pattern of book use be like? Scholarly needs and refined literary tastes would still be best met through books.* Also, most kinds of guides and reference materials would still be most efficiently presented in book/print form. But would there be any other use for books? Possibly not.

The extreme prediction above may not come about—a far deeper, detailed analysis would have to be done to support it adequately—but on the other hand, it is plausible and possible. When nonprint media forms become as portable and flexible in use as the book, while still providing the added pleasure and interest of vivid scenes presented quickly without pages of description, might not all of us, even those of us with an investment in print, come to prefer them for most needs? We will not know the answer to this question unless we analyze, from the standpoint of our information field, the nature of the various media as information transfer channels.

Just two more points will be made about media. First, reference so far has been largely to physically portable information packages—books, records, videotapes, etc., or to one-way soft-copy information packages; e.g., through radio and television. But the development of widespread on-line interactive information systems may be more momentous and far reaching in its consequences than any media event yet seen. Such systems as cable TV connected with a typewriter console, or home interaction with a computer system possessing hard-copy printout capabilities, may allow information-transfer configurations far more sophisticated than anything we have now.

Second, the first section of this paper referred to the importance of making available high-quality, free life-information to all in our society. Even assuming a continued stable media configuration, this is an empty effort if it is wholly print oriented. The can't-read, can-barely-read, or just don't-like-to-read groups in our society are so large that no truly democratic life-information system will be possible without extensive use of nonprint media.

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*For example, with respect to literary tastes, that majority of fiction book readers who read for plot and characterization would be lost to the other media. Only those few who read to savor the writer's or poet's language would remain.

IV. Repersonalization

By "repersonalization" is meant a trend that had its roots in the sixties, but is only now coming to fruition. It represents a desire to humanize and personalize human experience again. It is seen as a reaction against three characteristics of American life that reached their peak expression in the fifties:

(1) *Bureaucratization.* By the fifties, the organizational structure of our society had become so complex that many important decisions affecting a person's life were made so distantly and anonymously that an individual came to feel helpless.

(2) *Homogenization.* The organization man with home in the suburbs epitomized the homegenizing and standardizing trends of the fifties. He and his family could be easily plugged into jobs and homes anywhere in the country; the people and communities would be remarkably similar everywhere.

(3) *Nucleation of families.* Coincident with the mobility alluded to in (2), extended family and community ties were severed and the nuclear family became the primary social unit and source of emotional satisfaction.

The upheavals of the sixties can be viewed in part as a reaction to these earlier trends. Free clinics and "people's" organizations of all kinds rejected bureaucratic organization, the hippie movement relished "doing your own thing" and delighted in sporting all manner of nonconforming dress, and the "love everybody" mood, combined with the development of communes and communities of various sorts, represented an effort to break out of the mold of the nuclear family as primary social unit.

Though these movements in the sixties existed largely in the fringes of society, among hippies and students, their activities were intensely observed and vicariously shared in by the rest of society. It seems safe to say that, by now, the mass of society shares to at least some degree the interest in drugs, sexual freedom, and "doing your own thing" that so shocked them 10 years ago.

But the real result of the rebellion of the sixties is only now beginning to appear in the seventies. The wider society is finding quieter, less conspicuous ways to reverse the trends of the fifties. Modest though these developments may appear now, their long-term effects may be enormous. Information service will be affected by these trends as well. These trends of the seventies and their effects will be discussed next.

Views expressed here on trends may be surprising because they do not follow the more common pattern of futuristic prediction of simply extrapolating current conditions. Instead they suggest a marked turning away from the current pattern. But there are other writers who are predicting even more drastic shifts in the future. Lukacs, in a book entitled **"The Passing of the Modern Age"** (*7*), argues that we are now reaching the end of the modern age that began in the Renaissance and entering a new dark age. William Irwin Thompson (*13*) sees the change in a more neutral light, but sees change all the same. He suggests that we may soon shift out of the industrial civilization we know now into one that, while maintaining science, is also mythical and mystical in orientation (p. 142ff). Theodore Roszak, who wrote in an earlier decade about the counterculture, now in a new book (*12*) involves himself intensely in arguing for his vision of the new, very different society. Typical statements are—

> On that Reality Principle and on the artificial environment which is its social expression, the technocracy has been raised as a benevolent despotism of elitist expertise.
>
> But if our psychology is not itself to be debased by scientific objectification, then it must follow where liberated consciousness leads it; into the province of the dream, the myth, the visionary rapture, the sacramental sense of reality, the transcendent symbol (p. 379).

Let us now return to this writer's relatively more modest suggestions regarding sociocultural trends.

The effort in the seventies to restore individual responsibility, to provide a sense of uniqueness, and to extend close relationships beyond the nuclear family is expressed in many ways and in many areas, but they all seem to center, one way or another, around the same core idea: the development of small groups and communities that have control over some or many decisionmaking areas in the lives of the members. The members themselves, rather than those they consider outsiders, determine the membership of the group.

With the members feeling free to accept or reject potential new members, the homogenizing process is stopped and the group is free to develop distinct differences from other groups in the society. Since the members determine membership, and outsiders may not freely come and go in the group, the group boundary is thick, so to speak. This leads to greater stability of the group and more security for those fortunate to be within it. This security allows, in some cases, the development of greater individuality of group members, thus restoring a sense of individual uniqueness. Furthermore, the greater stability of the group, and its thicker boundary, make it more important in their lives. The group develops as an important additional level of social and emotional relationship thus taking some of the burden of satisfying emotional needs off of the nuclear family bond.

These groupings are in embryo form in various areas of our lives today. Generally speaking, the broader the area of decisionmaking, especially of decisions with close, personal meaning in life, the more exclusive (the thicker the boundary of) the group. The most extreme and all-encompassing such group form to develop is the commune, or community. Associated, in the sixties, only with the hippie fringe, they are starting to become more widespread and middle class. The writer is herself acquainted with a group of about 30 "straight" middle class people, aged from the twenties through the fifties, who have formed such a community. A subgroup within the community has already formed an income-sharing, group-living commune, and others are discussing such approaches. The community is very conscious of itself as an organic, extended-family-like group. Membership is restricted and the psychological group boundary is thick.

One hears of other such arrangements, but though much has been written about hippie communes of the sixties, evidence of the wider, middle class attraction of this movement is just barely beginning to appear in the literature. Articles in four popular magazines in 1973 indicate the beginning of a trend to a wider interest. The conservative **Reader's Digest** had an original article entitled "The Intimate Life of a Commune" (*15*) which mainly condemns the weak family bond in most hippie communes. But, significantly, the article ends with a highly favorable description of two older, well-established communes. Both the communes described already existed in the fifties—yet it is hard to imagine **Reader's Digest** saying a favorable word about a commune back in the fifties!

Other favorable articles have appeared in **U.S. News & World Report** (*3*), **Harper's Magazine** (*14*), and **The Christian Century** (*5*). In the last journal, W. Paul Jones says: "The indications are clear and convincing; the time is ripe to explore the 'call' to intentional Christian community. One morning's mail alone brought four inquiries . . ." (p. 73). He goes on in a practical way to suggest six models of intentional communities, ranging from an "Extended Family Model" to the loosest: "Citywide Housing, Independent Economy, Common Mission."

Another major area for group formation is the work situation. There has been a rash of articles and television features lately about efforts along this line. Two related themes with which we are already familiar are stressed—the restoring of individual responsibility to workers, and the formation of work teams that are relatively stable. In fact, the work team is usually the medium for restoring responsibility; the group decides within itself who does what sort of work and when.

An interesting article by David Jenkins in a recent **Atlantic Monthly** elaborates on this development (*4*). The factories in which this movement is the most developed (sometimes without the full awareness of top echelon people in the company) are almost completely worker controlled. Ordinary hierarchies have all but been abolished. One company official referred repeatedly to the workers at one such company as "the community," and, from Jenkins' description, one would gather that just such a group sense exists in the plant. At another plant the main organizational unit is a team of 8 or 16 men. Significantly, a team does the hiring and firing for its own team (member-controlled boundaries again) and, according to Jenkins, the teams even occasionally expel members. Such plants show high production and quality for low cost, along with high worker morale.

The widespread urge toward community control of schools and participation in local government may be less extreme, more conventional manifestations of this same repersonalization trend. To research properly and suggest evidence for this, however, would be beyond the scope of this paper.

We may suggest just a couple more things about this new trend. First, it may be anticipated that people will establish these groups in several areas of their lives in most cases. In the urban situation, the single commune encompassing all personal, social, and work relationships is simply impractical. A more likely pattern is that a person will have a close living-group association, a slightly less intense work-team group, as well as various other group associations representing particular interests, such as church groups, women's groups, etc.

Because of the importance and intensity of these relationships, people will be much less willing to move away from the group to another community. Bonds to the local community will be strengthened and, over time, communities will grow to be different from one another, more individualized. This differentiation of localities will constitute another means to satisfy the urge to dehomogenize the society.

It is likely that the general mobility of society will decline. Not only will people be more attached to the distinctive commune or community they have helped form, but it will also be harder to move from one community to another. During the homogeneous fifties a suburbanite could be confident that the new suburb he moved to, across the country, would be just like the one he had left. He could plug himself in and out of communities easily, so he could afford, emotionally, to move often. That may not remain the case in the dehomogenized seventies and eighties, with the development of more distinctive, hard-to-adapt-to communities.

Another thing that characterizes the communes and communities is that they achieve certain economies of scale, in terms of both expenditures and work allocation. In the area of food purchasing and preparation, for example, they can save both money and time. In view of the information overload problems discussed in an earlier section, it may become necessary to take advantage of economies of scale here too. Groups might do this either by appointing one member to monitor information sources and become skilled in information searching for the rest of the group, or else by making each member responsible for some particular area of information. This is a particular point where interactive information systems may be of use. It will be economically feasible to install a cable television or computer console unit in a commune home with its larger income base sooner than will be the case for nuclear family homes.

But there is more to be said than this about the nature of information flow under the impact of the repersonalization trend. First, we must look more closely at what has happened to the organic information-transfer system in recent years. It has been suggested that this system has become overloaded and hopelessly too slow for our complex, rapidly changing modern society. On the basis of what has already been said about the nuclear family and mobility in recent years, it may be suspected that not only has the traditional system become overloaded, it has actually shrunk in size, in basic capacity! As people are cut off from extended family and stable community contacts, many of the contact points in the older organic information transfer network are cut off and dry up. Older adults may maintain contacts with family "back home," but the contact is bound to be less efficient when the parties involved are separated by great distance. Furthermore, the kind of information flow that takes place in the course of casual conversation over hours of frequent contact is virtually eliminated in such a situation. New contacts are slow to develop, slow at least when it comes to getting advice on things that are really close to the heart. Hence, it can be said that the traditional organic information-transfer pattern or network has shrunk in size for the average person in recent years.

Further, we may presume that the shrinking is felt even more markedly by the average teenager, who has been moving all his life, who has no really meaningful "folks back home." This may be one reason why hotlines are particularly popular among teenagers. Whereas in the past some teenagers could ask a cousin or a favorite aunt certain questions about sex, boyfriends, or relations with their parents, they now have no one else to turn to besides a hotline.

It seems reasonable to say, then, that with regard to information-transfer the repersonalization trend represents a (probably unconscious) movement by people to reestablish an earlier known pattern of extended information contacts (that is, beyond the nuclear family). They want the contact nodes of this network to be as meaningful to them emotionally, and as reliable, as the members of the old extended family and stable community were. The mechanism for achieving this extended network is voluntary association of a particular kind. This is no longer the Elks' Club or Eastern Star type of association; rather it involves smaller groups, is emotionally more intense, and it is associated primarily with the most important areas of life – home life and work.

Personal contact as a medium of life-information transfer has always been important, as the book **"Personal Influence,"** by Katz and Lazarsfeld, showed (6). People generally do rely strongly on known, personal sources. But now it is suggested that: (1) The pattern and context of that reliance is shifting, and (2) even more reliance will be placed on personal sources than in the recent past. Information that a housewife uses, for example, will not come from a series of casual friends she makes over the course of years in the several suburbs she lives in. She will now get information from a much more stable group of associates in a commune or work group. Because her relationship is more intense and long-lasting with this group, she takes their views much more to heart and asks them about more personal things than she formerly asked her casual suburban friends. In the earlier situation, anything that might be socially embarrassing she kept to herself or to her husband, or else took to an outside expert, either by reading or visiting the expert (e.g., a doctor). Many of these concerns will now be **taken to the group first, and outsiders turned to only as a last resort.** The thesis of Katz and Lazarsfeld on personal influence remains valid – personal information sources are important – but the extent and character of this influence will be significantly different in the seventies and beyond.

It is possible that people will have a new relationship to the mass media. Along with their general reaction to homogenization, they may become tired of getting advice on child-rearing, for example, from a Dr. Spock who writes for 40 million other people as well. The mass media how-to books and television programs, on subjects ranging from French cooking to sex, have probably passed their peak in popularity and will decline in average sales in the coming years, as people find more personal, closer-to-home advisers.

On the other hand, most people will probably not return to 19th-century isolation. They have been plugged into the national media network of radio, television, etc., for so long, and have received so many benefits from it in terms of information, that there will probably remain a willingness to draw upon nonpersonal resources when the situation calls for it; those sources will be used only after meaningful personal resources have been exhausted.

To clarify the model described so far of information transfer under the impact of the repersonalization urge: Many kinds of life-information that people formerly got from the extended family and stable local community have come in recent years from public mass media. The repersonalization urge will affect information transfer in that people will want to restore the older pattern of information-transfer (but through a new means of voluntary extended families) and to get much help from people who are meaningful and close to them first before turning to outside sources.

But note: This argument does not

obviate the point made earlier that the amount of life-information that the average citizen needs to absorb in order to maximize his chances of survival and success is, in this day and age, overwhelming. Even when the wider organic information-transfer network is restored in the repersonalization movement, the network will be restored to an earlier operating capacity that will still be far from sufficient. (Incidentally, it should be pointed out that in restoring this old network, the average person probably does not think in information terms. He is not moving to repersonalize in order to meet an information overload problem; he is doing it to satisfy certain emotional needs for closeness and interaction.)

So, in sum, there will be a tendency to turn inward for many kinds of life information, but also to associate with groups that will probably retain some contacts with outside information resources. Furthermore, the information needs for successful living will be so great that we in the library and information field must still devise advanced information systems, such as suggested in an earlier section, in order to meet those needs.

These systems should be designed in the context of what we know about the repersonalization move. To take just one example, it would be much more in the spirit of the time in the coming years for public libraries to go in for developing SDI (selective dissemination of information) profiles for groups of individuals and providing information and materials suiting the interests of individuals in the group – with whom, ideally, the librarian, is well-acquainted – than to put large sums of money into beautiful yet sterile library buildings. Many more resources should go into personnel and personalized, individualized services than into plant and equipment (unless the latter directly facilitates the former).

How do hotlines relate to this repersonalization trend? They probably represent the first step in the restoration of more organic information transfer. If you feel isolated and unable to get help from traditional family and community sources, the hotline provides a solution. This suggestion raises several questions, but first we should describe the hotline model in more detail. Reliance on the telephone, the anonymity of the caller, a strong and direct personal interest on the part of the listener, and a strong emphasis on both emotional support and the provision of life-information are probably the most important defining characteristics of the model.

The hotline phenomenon represents an explosion itself: the first was established in Los Angeles in 1968 (*2*). By June of 1972 there were 656 hotlines in the country (*1*). The hotline provides a personal contact and personal interest. Lynette Reilly, a Maryland library student who surveyed 10 hotlines in the Washington metropolitan area, was repeatedly struck by the friendliness and directness of the people she talked to – a contact that is deliberately antiestablishment and antibureaucratic. When people work for established institutions, they tend to clothe themselves in the institution. After a short time, they come to defend the institution against the client, if the client should have the audacity to put the institution in a bad light. Officers in many social service agencies, including librarians, have some bad habits along this line. This bureaucratic pattern is rejected by the hotlines, and so they represent both the antiestablishment sixties, and the personalizing seventies.

They are, nonetheless, just a transitional institution (though they may survive for other reasons), for note that though they personalize contact, the caller is still anonymous — necessarily so, since the caller and listener are not acquainted. The caller is using the hotline because nuclear family contacts do not suffice — but as soon as the commune/community movement really starts to grow, these personal needs will once again be satisfied in a close circle and the needs for hotlines will diminish. At least, the needs they are currently satisfying may diminish.

It is suggested here that hotlines may survive to satisfy another, slightly different kind of need. It has already been noted that the groups will be likely to maintain more media contact than the extended family did in earlier days. Besides the cause for this that was already mentioned, another reason might be that the new groups are voluntary. The great disadvantage of the community of the old days was that it was involuntary, mainly based on tradition and economic need. In the new age, when a person wants to explore outside possibilities, particularly the possibility of changing from one primary group to another, he or she needs contacts, above all, outside the group. The hotline could represent just the kind of contact needed — personalized, and yet anonymous and unrelated to one.

V. Impact of Trends on the Design of Public Information Service

If the author's projections are valid, information will become a much more vital part of people's lives. People will need more of it in order to live in this highly complex, information-oriented society. We have called this survival/success-related information "life information." Yet getting at the good, high-quality information will be made harder both by the fact that some information will be kept secret by those who stand to gain thereby, and by the fact that there will be such masses of information available that, even when the desired facts are public, the user will have a difficult time getting to them through the irrelevant material.

It was suggested earlier that the old idealistic public-library function, that of providing a place where a person could educate himself and then rise as high in the society as his talents could take him, is on the wane. Widespread availability of cheap higher education makes this democratizing funtion of the public library obsolete. It was proposed that the public information systems in the United States exercise a democratizing influence instead, by providing free, high-quality, life-information to all. In Wiener's second industrial revolution, the revolution of information, access to good information may make the difference between success and failure in life. Here is the new arena for the library's equalizing and democratizing function. If we emphasize life-information in the design of public information delivery, we will be very much in the American library tradition, while still moving to meet late 20th-century needs.

If we accept this task, a public information system (or systems) will have to be designed that is (are) vastly more complex and more sophisticated than current models: more complex in that people will need to be given life-information in microunits, that is, in units or chunks of information, rather than in the traditional macrounit, the book-size package. In other words, to meet information-overload problems, the system must be more precise, delivering exactly and only the desired information, and to just those people who need it. The system will be more complex also because more media will be available to use and should be used to allow the library to reach the growing proportion of the culture that is not print-oriented. The system will be more sophisticated, because information theory and technology will have to grow greatly in sophistication in order to process rapidly the masses of information relevant to the public citizen.

Though we have disclaimed trying to describe a comprehensive design, the discussion in the previous sections of this paper suggests a number of characteristics that this public information system should have. These will be mentioned and elaborated here and drawn together in a collection of traits that should characterize public information service of the future.

(1) Though life-information is often available in libraries, it is usually hard to access and often requires considerable sophistication on the part of the public to be found. Usually, the public does not bother. Librarians, whether at the local level, as a part of a future national information system, or both, should use their own extensive searching skills to retrieve this information and disseminate it actively. They should actively and frequently assess user needs and then produce information-analysis products (neutral and balanced, to present all sides) in all manner of life-information areas. These products should, in turn, be vigorously disseminated, perhaps in the context of the personalizing factors discussed in point 3 below.

(2) The trend discussed in the third section of this paper suggests that

public information service should truly move into the nonprint media, not just dabble with them. Once we are committed to the dissemination of life-information to all our citizens, then we must move extensively into the use of nonprint media, since so many people in the society have turned away from print. Therefore, many of the information-analysis products suggested in the previous point should be available in nonprint forms.

(3) The repersonalization trend discussed in the fourth section suggests that information provision in the new model should be personalized as much as possible. But how is this to be done? The current library is at an advantage since it is a local, community organization. This governance structure fits the trend that is moving toward people's having control of the institutions around them. On the other hand, many librarians tend to be a bit introverted and to have trouble relating in a direct, personal way to people – a trait that is so essential to foster repersonalization.

The community information center can move to meet this trend in the short run in two ways. First, it can provide as much direct, personalized information service as it is able. SDI services to the new commune groups and individuals can be provided. Also, more emphasis can be put on acquiring up-to-date referral files of people and groups in the community (as distinct from print sources and formal institutions in the society). In a repersonalizing society, referral to other people as resources, rather than to books or establishment institutions, will be preferred by the public.

The second short-run way to deal with the repersonalization trend is for the library as it currently exists to link itself with hotline and other grassroots information services in the following manner: Both the library and the hotline could benefit (and ultimately merge into an integrated community information center) by simply collocating at first. The library would provide free space and phone lines to hotlines and also make provision for walk-in facilities, where needed. The library and the hotlines would remain administratively separate for the indefinite future, i.e., the hotlines would still run themselves.

Both parties to this arrangement should benefit. The hotlines will solve their most pressing problem, space and phone lines. They will be housed in an institution, which, though part of the establishment, has a mild, non-Big-Brother image.

The library, on the other hand, will be linked physically, and it is hoped eventually in the minds of the citizens as well, with a personalized information service born of the new age. At first the library can help the hotline by providing back-up information searching when needed, as well as expertise in the organization of information. When the information analysis products are developed and a more active information dissemination program has begun, the two may become more actively linked, though still administratively separate. The library can prepare information-analysis products that will be directly useful to the hotline in its services. On the other hand, hotline contacts may lead to new contacts for the library's SDI service. As the two become more closely linked, the traditional library image may change and more extraverted, "people oriented" people may be drawn into the work.

The above are short-run solutions. In the longer run, local community information centers (reflecting the distinct character of their community) should be linked up with the aforementioned complex, sophisticated national information system. The local center will remain largely autonomous and independent (though it will have to conform in some respects in order to take advantage of the national system), and it will draw upon the national system for perceived needs as they arise. The particular division of labor between the local and national systems could be the subject of another paper. What the analysis in this paper suggests, however, is that local autonomy and individuality be respected as far as possible. To disregard these would be to swim against the tide of the times.

This is not to imply, however, that local information centers will be resistant to any sort of linkup with a national system. Just as we argued earlier that individuals in the society would involve themselves with two levels of information gathering: (1) Through intense, close-knit groups, and (2) through national mass media and other outside sources when the group failed, so also should public information services be designed. We are entering a time of intense localism – hence, the emphasis on local autonomy – but the people have learned well the advantages of large-scale organization too. They have benefited for too long from national communication, transportation, defense, and commerce systems not to be willing to draw upon a national information system when something can be gained thereby. But they will want to draw upon such a system only where the need in question cannot be met by the local facility.

Let us now summarize at least some of the traits of the eventual community information service that should develop to meet the public's needs in the seventies and beyond. This service will be characterized by:

- Administrative structures and intellectual systems for organizing knowledge suited to life-information provision (in addition to the structures and systems serving current scholarly, recreational, and other needs.)
- Reading, viewing, listening in every conceivable medium, plus providing for information-gathering by the public through an interactive mode.
- Extensive referral networks and reliance in general on human as well as nonpersonal information sources.

- Personalized, individualized information service by "people oriented" people.

- Active information processing and dissemination, including public SDI and information-analysis products, the latter oriented particularly to life-information.

- Very wide audience in the community, due to extensive use of personal and nonprint media contact.

- Two-level organizational structure: strong local centers linked to a sophisticated national network.

The public information-delivery system should add the vigorous collection and dissemination of high-quality life-information to its traditional roles of providing intellectual and recreational information. If it provides this information through a system design that incorporates the traits above, then it will continue, in the late 20th-century context, the public library's tradition of equalizing opportunity for all Americans.

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CHAPTER 4

The Conference, Part I: Description of the Needs of Specific Groups

This chapter presents the final versions of 16 papers presented and discussed during the General Session of the Denver User Needs Conference. Section XVII presents highlights of the general session, taken from the tape recordings of the conference.

I. Library and Information Needs of Scientists and Technologists

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Scientists and technologists are an extraordinarily diverse clientele for information services. One of their few common denominators is the continuous flow of information through their projects. To turn the anthropomorphic metaphor, they are human computers. They process information input into information output. Without abundant information input, they are as unproductive as a computer without its card readers and tape drives.

Early recognition of information's crucial role in research* is credited to Vannevar Bush, whose 1945 article "As We May Think" is one of the manifestoes of information science (*1*). Drawing on his wartime experience as director of the Office of Scientific Research and Development, Bush prophesied that science's coming crisis would not be one of support, nor of organization, but of communication: "The summation of human experience is being expanded at a prodigious rate, and the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships."

Bush predicted the development of Memex, a desk-size library and computer that functions as "an enlarged intimate supplement to memory." Holding vast information resources in microform, Memex helps the researcher to build "associative trails" from document to document and to annotate passages for future reference in his own work. In a 1967 essay, "Memex Revisited" (*2*), Bush noted with satisfaction that the necessary components of Memex had been invented more or less as he had predicted, even if no tinkerer had yet assembled them into the first Memex. (The fact that no one has attempted to build Memex is a point worth returning to later.)

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* "Research" and "researcher" will be my convention for avoiding the cumbersome phrases "science/technology" and "scientist/technologist" except when a distinction is to be made between characteristic needs, etc., of scientists and technologists.

In the past two decades, the information needs of researchers have continued to concern scientific statesmen like Bush, government commissions, research librarians, information scientists, and various businessmen who were convinced that researchers comprised an important market for some kind of information service, if they could only figure out what it was. In behavioral research on researchers, it has been a noteworthy discovery to these interested parties that researchers don't process information as they are "supposed to." At the same time that sociologists of science were debunking the myth that research is an orderly and rational process, information scientists began to report that researchers processed information episodically, erratically, and "accidentally." Furthermore, researchers in the same field and even in the same laboratory differed so greatly in their information habits that serving them from the same information facility often proved to be a quixotic enterprise.

CHARACTERISTICS OF SCIENTISTS AND TECHNOLOGISTS

The National Science Foundation report, **"American Science Manpower 1970"** *(13)*, reports a national work force of about 313,000 scientists, of whom nearly 30 percent are chemists, followed in descending order by biologists, physicists, psychologists, mathematicians, earth and marine scientists, agricultural scientists, etc. Roughly 40 percent of the 313,000 scientists hold a doctorate of some kind. The remaining 60 percent are more or less equally divided between master's and bachelor's degrees. Not all of these scientists are researchers. Many have shifted to full-time teaching or administration. Leaving the bench does not solve a scientist's information difficulties, however.

A certain proportion of "scientists" reported in **"American Science Manpower 1970"** are more appropriately described as "technologists," according to their educational level and the kinds of work they perform. A full enumeration of "technologists" in the country would be numerically impressive but also meaningless, since computer programmers and "sales engineers" with bachelor's degrees would probably be included. The number of technologists currently at the bench is further affected by cutbacks in aerospace and other industries. For purposes of this discussion we can note the rule of thumb that each bench scientist provides support or spinoff work for several technologists. There may be, therefore, upwards of 1 million bench technologists in the country.

From the growing literature of "research on research," we can characterize researchers on a number of dimensions, ranging from their undergraduate majors to their salaries to their proficiency in foreign languages. What dimensions are relevant to this discussion of their information needs?

The literature tells us to note the following dimensions:

1. *Discipline or field.* For a host of reasons, both historical and epistemological, researchers in different disciplines or fields process information differently. The 1970 article by Garvey, Lin, and Nelson, "Communication in the Physical and Social Sciences," is the best single reference on this dimension (5).

2. *Position or status.* In terms of information prerogatives, a distinction should at least be made between senior researchers, junior researchers, and students. In his 1965 book, **"The Scientific Community,"** Hagstrom distinguishes additional positions and statuses (7). The literature relating this dimension to information needs is extensive and provocative. It ranges from Watson's **Double Helix** (*16*), a case study of the information advantages of being an insider, to Merton's article on the same theme, "The Matthew Effect in Science" (*11*), to Crane's study of "Scientists at Major and Minor Universities" (3).

3. *Centrality.* "Centrality" refers to the researcher's proximity to centers where the most important research in his specialty is being conducted. Physical nearness and psychological proximity are conceptually distinct. Price's discussion of "The Affluent Scientific Commuter" in **"Little Science, Big Science"** (*15*) stimulated a rash of studies on "invisible colleges" of widely dispersed researchers who maintain contact via telephone and correspondence, meet "on the circuit," coauthor papers, hire each other's graduates, etc. Other researchers may lack centrality even though they are physically located in a city containing a state-of-the-art laboratory. Of the two factors, physical proximity is less important than psychological proximity.

4. *Setting.* Researchers are found primarily in four settings: Universities, nonprofit organizations, profitmaking organizations, and government facilities. Researchers working in these settings have been found to process information differently. One of the earliest behavioral studies of researchers (*8*) compared researchers in the Johns Hopkins Department of Physics and the Hopkins Applied Physics Laboratory. Garvey and Griffith (*4*) compared psychologists in a university setting and in a government laboratory setting. Pelz and Andrews (*14*) have probably conducted the most thorough study of the effects of settings on researchers, including effects on information processing.

5. *Research area.* Even within a discipline or field, research areas differ in being focused or diffuse. Mote (*12*) may have conducted the first study relating information processing to diffuseness of research area.

6. *Research phase.* Studies of individual researchers show that the nature and intensity of their information processing differ ac-

cording to the phase they have reached in their projects.

LIBRARY AND INFORMATION NEEDS OF SCIENTISTS AND TECHNOLOGISTS

Borrowing terms from the psychological study of information processing, we could say that researchers need information to **explore,** to **decide,** and to **confirm.** We could also distinguish needs more schematically in terms of the **type** of information that is needed, the **purpose** served by such information, the **response speed** that the current pace of research requires, and a reasonable **delivery mode,** given researchers' information processing habits:

1. *Type.* "Digested information" on reliable findings in a field of research over, say, a 20-year period.

   Purpose. To plan one's own research activities.

   Response speed. Within a month or so of the first perception of the need for such information.

   Delivery mode. Maximally compressed print or audio format with taxonomic or propositional structure.

2. *Type.* Information on **who** is conducting research on **what topics,** using **what approach,** right now.

   Purpose. To test the soundness of one's ideas against what others have chosen to do, also to avoid duplicative effort.

   Response speed. Within a week or so after a topic has been narrowed to researchable size.

   Delivery mode. "Quick and dirty" print or audio announcement media.

3. *Type.* Findings of just-completed research.

   Purpose. To modify one's own research plans.

   Response speed. Response timing begins not with the researcher's perception that he would like to have such information but with the completion of relevant work elsewhere. Given present technologies, a researcher should not have to wait more than a month for a reasonably full account of findings elsewhere.

   Delivery mode. Probably print media, because of the common need for graphic and tabular display. Not audiovisual media at this time because of processing and distribution delays.

4. *Type.* Information on equipment and procedures used in research.

   Purpose. To carry out research procedures announced by others; to take advantage of state-of-the-art procedures; sometimes to replicate others' work for the sake of replication.

   Response speed. For overall procedures or equipment configurations, within a month of indicated need. For specific points or "bugs" in a set-up, within 2 or 3 days.

   Delivery mode. Print and graphics for overall description; telephone, airmail, or possibly telefacsimile for help on bugs.

5. *Type.* Information on external circumstances of research—funding opportunities, publication opportunities, etc.

   Purpose. To enable research programs to move from one project to another and to announce findings.

   Response speed. Within a month or so of changes in the "system" as the researcher formerly understood it.

   Delivery mode. Print or audio cassette newsletter.

6. *Type.* Critical review and feedback with respect to one's own work.

   Purpose. To guide future research decisions and to modify ongoing work.

   Response speed. Within a few weeks after soliciting review or criticism for first reactions; within a few months for the digested reaction.

   Delivery mode. Print or audio.

7. *Type.* New theories and other nonempirical statements in one's field.

Purpose: To guide future research decisions.

Response speed: Within a month or so of the availability of such statements anywhere in the system.

Delivery mode: Print or audio.

8. *Type:* Simple presentations of research in other fields.

   Purpose: To infuse new ideas into one's own work.

   Response speed: Coherence of presentation and attractiveness of packaging are probably more important than response speed. Annual reviews would suffice if written for broader audiences.

   Delivery mode: Attractive print format or audiovisual.

9. *Type:* News of trends in the profession.

   Purpose: To orient oneself and one's work.

   Response speed: Within a month or so of the availability of such news anywhere in the system.

   Delivery mode: Print or audio cassette newsletter.

RATIONALE FOR SERVING SCIENTISTS AND TECHNOLOGISTS

It is impossible to extricate the rationale for information services to research scientists and technologists from the rationale for research support itself. If research merits support from the public or private sector, then information service – providing the raw material for research – is an additional support obligation.

When the support tide turns against research, as it has recently, it makes sense to scale down information service *if* that service was provided at a capacity level during previous support cycles. If the information service has been chronically undersupported relative to researchers' unfilled needs, then any adjustment in its support level to match research cutbacks is as arbitrary as the original level setting.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

Adequacies and deficiencies must be stated from the perspective of a researcher who actually needs an externally provided information service. This is not the perspective of a centrally located senior researcher who works in an open setting and communicates constantly with other senior researchers in open settings. (It is instructive to read the **Double Helix** as a chronology of communication events. Only two or three times did Watson and Crick use the literature for information that could not have been provided as readily by the invisible college around them.)

From the perspective of a junior researcher or student who is not centrally located, who may – because of limited prerogatives – be working in a less-than-open setting, and who may be tackling a new and diffuse research area, the scientific information system still appears to bear out Bush's contention that "the means we use for threading through the consequent maze to the momentarily important item is the same as was used in the days of square-rigged ships."

If a scientific Rip van Winkle had fallen asleep in 1945, when Bush's article was published, and awakened this year, he would have to look long and hard to determine that the scientific information system had changed in the 28 years of his snooze. His eyes would first see books, journals, abstracts, papers, conference proceedings—all the bibliographic apparatus that he knew in the 1940's. If he stumbles upon the **Journal of the American Society for Information Science** or other journals of the same genre, he will read that computers permit rapid identification of desired documents and that microforms pack entire libraries into briefcases. In conversation with his old colleagues, however, he will learn that these wonders have been announced for years and that few bench researchers (or anyone else for that matter) have bothered to investigate them.

Part of the answer to this utilization impasse lies in the continuing high costs of computer information service and the inconvenience of microform. A more significant answer lies in the unread journals on researchers' shelves (a generalization based on readership studies conducted by the American Chemical Society and the American Psychological Association). If the researcher doesn't get around to reading the most relevant subset of the literature (i.e., the limited number of journals that he chose to subscribe to) when it sits in his office, it is understandable that he does not stir himself to learn new procedures and technologies to gather additional not-to-be-read materials.

Of course the researcher does use print materials that have been produced by other researchers, and occasionally these come to him through an externally provided information service. (We are talking averages here. Allowing for diversity among researchers, the qualifier "occasionally" could become "1 out of 100 times" or "30 out of 100 times.") However, the entire print resource system frustrates him because of its ambiguity. Frustration and suspicion that have recently been focused on letters journals and brief communications journals, having to do with the indecipherability of procedures and replication failures, are tapped from the pool of feelings that many and various encounters with the print resource system have built up in him.

Only if information service is defined with unusual breadth to include the production of secondary and even primary materials to take the place of those that the researcher finds unsatisfactory, including materials being produced by his colleagues, can we say that his failure to use the print resource system is a fault of information service and not the research system itself.

In summary, limitations and inadequacies there are, but "service" is not the source of them. A widespread sentiment among scientists is echoed by Goudsmit (6): "Is the literature worth retrieving?" It is the intellectual side of scientific information that has failed, not the transmission side.

STRATEGIES FOR FILLING UNMET NEEDS

It is important to note again who is to be served. It is not the centrally located senior researcher who receives rich and timely information from his colleagues without having to request it (without knowing, in fact, what he will learn in a given day or week but trusting to serendipitous "accidents" that Menzel documented in his 1958 study).

Externally provided information services should target the researchers who need them, the noncentral junior researchers who do not belong to invisible colleges, not even under the proxy of senior colleagues, and will not learn what they need to know unless they can read about it.

Information services optimized for such a group will of course be used by senior researchers as well, in the way senior researchers now use information services—to build up a backfile. But senior researchers' work will be little affected one way or the other, just as it is now little affected by externally provided information services.

The first desirable service option, then, is to target information services on the group that needs them. This would be a fairly courageous option to follow, since it is the senior researchers who shape scientific information policy and govern (as association officers, journal editors, conference chairmen, etc.) the scientific information system that they themselves don't depend on.

The second desirable service option is to do something about the content of scientific information. We can see from the perspective of a future century that our standards for producing primary scientific reports will be viewed as surprisingly low relative to the development of science's codified knowledge. Today's scientific "article" differs only slightly from the essays written by charter members of the Royal Society in the 17th century. Bench researchers become resigned to the fact that they can't replicate experiments from article information alone; often it would take a procedural section longer than the entire article just to describe equipment setup and calibration.

However, primary reports will not be subject to standardization until a series of petty disputes is settled within and between disciplines. What is possible is a greatly strengthened secondary literature. Herring's theme, "Distill or drown: the need for reviews" (9), has won wide acceptance among researchers and information specialists, but as a matter of policy the reviewing function is left to researchers, who do it well or poorly according to their native abilities. Only in a small number of scientific information systems—chiefly those established during the 1960's—is the reviewing function vested in the system itself. Not even in these cases is it done reliably or comprehensively. What is needed is a technology of secondary information packaging, guided by procedures as explicit as those of bibliography.

The discussion up to this point leads to recommendations in two areas:

1. Procedures should be developed for identifying researchers who most need externally provided information services. When identified, groups of such researchers should provide needs data within the framework of the best available needs assessment methodology. Who they are and what they need are the two facts that will allow information services to be optimized on their behalf.
2. Procedures should be developed for improving the content of the scientific information system at the secondary stage if not the primary stage. There should be, to the targeted researchers, a flow of reliable, comprehensive reviews, codifications, inventories, and similar materials that will provide them with the same intellectual support in dealing with primary materials that senior researchers obtain as a matter of course from their invisible colleges.

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II. Library and Information Service for Agriculture

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GENERAL OBJECTIVES OF LIBRARY SERVICES IN AGRICULTURE

Stated broadly, the general objectives in providing library service in agriculture are to:

1. Develop and utilize library information systems to provide for the essential information needs of farmers, agriculture businessmen, and agricultural scientists who contribute to meeting the food and fiber needs of the Nation and its commitments to world trade.

2. Develop library information systems to improve services of agricultural agencies and groups who are in the process of disseminating knowledge and information necessary for an efficient and effective food and fiber production and distribution system.

3. Provide information, collection, and distribution systems utilizing new electronic and communication technology to improve services to researchers and investigators in experiments that have direct contributions to the growth and maintenance of an effective agricultural industry.

4. Provide a library information service bearing on public concerns about environmental quality and the relationship and effects of these concerns on the agricultural industry and vice versa.

5. Develop new financial and informational support systems interconnecting National, State, university, and college libraries with local libraries to make direct informational inputs for farmers and agricultural professionals servicing the farmers.

6. Provide library informational services on food and agriculture to the various communications media that have direct contact with consumers.

INFORMATION NEEDS IN AGRICULTURE

INTRODUCTION

This chapter covers characteristics and needs in seven sections; they deal with: (1) The commercial farmer, (2) the part-time farmer, (3) the low-income farmer, (4) farm laborers, (5) agricultural businessmen, (6) professional agricultural scientists, and (7) other users.

CHARACTERISTICS OF THE COMMERCIAL FARMER

A primary audience of the land-grant universities and the Cooperative Extension Service are the commercial farmers of the nation. For efficient operation of a commercial farm the operator must have great amounts of current and accurate information. This group must know and understand a complex array of information including technology, economic forces, governmental actions, and business management. The importance of a sound agricultural production system is increasing, even though the number of commercial farms are decreasing. The 1969 census of agriculture reports over 2.7 million farms in the United States. Of the total, about 1.7 million were commercial farms averaging 530 acres in size. This commercial farm group (1.7 million farms) had product sales of $44.5 billion or about 98% of all farm sales. Table 4–1 shows the number of farms and percentage of sales by value of agricultural products sold.

Table 4–1 Number of Farms and Percentage of Sales by Value of Agricultural Products Sold, 1969

Value of agricultural products sales	Number of farms	Percent of all farms	Percent of all sales
$100,000 and over	52,000	2	34
$40,000 to $99,999	170,000	6	22
$10,000 to $39,999	726,000	27	33
$2,500 to $9,999	748,000	27	9
Less than $2,500	1,032,000	38	2
Total	2,728,000	100	100

Source: U.S. Census of Agriculture, 1969.

The land-grant universities and governmental agencies, particularly the USDA, are engaged in both the development and dissemination of information related to agriculture. This information is available through the Cooperative Extension Service to small and large farmers alike. In addition, special educational programs and information dissemination through various media are used to promote the use of agricultural knowledge and information.

RATIONALE FOR SERVING THE COMMERCIAL FARMER

Food is a basic need and motivational factor of man. Every person from the baby crying for its feeding to the homemaker, the family breadwinner, and the farmer himself is concerned with food as one of life's necessities. Libraries have a very important function to perform in providing the information necessary for meeting this basic physiological need.

An efficient and growing agricultural industry is and will continue to be a vital part of our national growth and development. The high level of living and the sustained growth made possible by the performance of U.S. farmers and the agricultural industry are recognized as outstanding achievements throughout the world.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

A challenge to commercial farmers is to have current factual information on proposed legislative programs and governmental actions. Information networks between National, State, and local libraries could aid with this problem of information dissemination to farmers, and also with the dissemination of this information to county extension agents and personnel of agricultural agencies (i.e., the Soil Conservation Service, the Environmental Protection Agency, and others), who have direct contact with farmers.

Agriculture production is highly dependent on large amounts of information in technology, management, marketing, and regulatory actions. Assembling and relating these various kinds of information to actual practice is a complex task for all farmers. Joint efforts of libraries, land-grant universities, the Cooperative Extension Service, and other agricultural agencies can make a significant contribution to the farmers and agriculture production. This is a great need. Some systems are being developed, and such efforts must be expanded.

At the local level many documents are developed by governmental units, such as the master plans for land utilization by county planning commissions, park and recreational development plans for the county by park and recreation boards and educational planning by the local school boards. All this has a direct bearing upon the land utilization in the local community. Commercial farmers have an interest, and often the farmer's production unit, as well as his personal investments, are directly affected by such planning and development programs. This information ought to be a part of a reference file in local libraries.

Local libraries and the Cooperative Extension Service could, through joint efforts, develop a reference file of extension bulletins and other publications used by commercial farmers. Many different agencies of the USDA with county offices also distribute publications with information necessary to agricultural production. These publications could be part of an agricultural reference file. Local libraries might also provide meeting rooms for informal educational meetings organized and conducted by the local extension staff, local agricultural committees, and other agricultural groups. Through these services, a library could develop an image of educational service to the farm clientele and provide assistance to agricultural agencies serving farmers. The farm group in the community would also become acquainted with, and develop an understanding of, the function in the relationship of library services to their information needs. These are only simplified examples of how library informational networks might provide needed services to commercial farmers.

The Cooperative Extension Service is experimenting with computerized informational systems that extension agents and commercial farmers use. These various systems provide quick access to highly technical information for crop and livestock production as well as farm management systems. Such services will increase, along with the development and expansion of communication networks and computer systems.

The commercial farmers are intelligent and highly trained, and many have college degrees. In addition to their farm business interest, they have community, State, and National interest. Some information resources relating to these interests may be too costly and infrequently used to be practical for local libraries to maintain. State and National libraries could help local libraries with services to meet some of the specific reference information requested through systems using computer terminals, interlibrary loan and other methods of information transfer.

CHARACTERISTICS OF PART-TIME FARMERS

This group includes farmers who have off-farm employment, and retirees from business who run farms. The part-time farmers' information needs are about the same as those of the full-time commercial farmers. The number of farm operators who also work off their farms is shown in table 4-2.

It is difficult to service the information needs of some part-time farmers because *time* is a premium to the man holding a job off the farm and operating a farm. Yet his need for basic information is significant to his farm business success and family living conditions.

Table 4-2 Number of Farm Operators Working Off Their Farms

Number days worked off farm	Number of farm operators
1 to 99	392,000
100 to 199	220,000
200 or more	871,000

Source: 1969 Census of Agriculture.

Another group of part-time farmers are retired people. The 1970 population census reports that over 20 million people are age 65 or over—nearly 10 percent of the total population—and many of them live in small rural communities or on small farms. There are two general subgroups. One group is made up of retired farmers who continue to operate a small unit that helps supplement their social security income. A second group consists of retired people who have reasonably good retirement pensions, who have purchased or inherited farmland, and who enjoy the rural and farm life. These people are interested in culture, enrichment, entertainment, and information on community service.

RATIONALE FOR SERVING PART-TIME FARMERS

Currently, this group is not a major concern or audience of libraries or other informal educational agencies in agriculture. This might lead to the conclusion that they are poorly served, on the other hand, they do receive help from commercial service people who supply production inputs and purchase their products (e.g., feed, seed, and fertilizer dealers; local elevator operators).

Although this is a small group and their contribution to total agricultural output is not a significant factor, their are social values and moral arguments because they have chosen to stay in rural areas and generally commute some distance to their place of employment.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

The possibility of developing joint efforts between the local cooperative extension office, the local library, and the employers for the purpose of reaching part-time farmers needs to be explored. These joint efforts may include mail or telephone services, "minibranch libraries" in the places of employment, or other efforts. Such efforts need careful study and tailoring to the specific farm enterprise and family needs.

Members of the retired-farmer group could participate in book reviews and other types of enrichment activities conducted by the libraries. In turn, these participants might serve as volunteer discussion leaders for community groups, using the knowledge that they developed in library enrichment programs.

In some communities, these people might be a valuable resource to aid libraries in the extension of services. Retired people could make a significant contribution to informal educational services of libraries, especially in the rural farm area of the country. They could help identify relevant information materials and/or service a special library section on agriculture.

CHARACTERISTICS OF LOW-INCOME FARMERS

Farm families that are truly low income need a variety of information and often are most difficult to reach. They are the "information-poor," as Parker describes them in chapter 2. Census information to identify the number and describe the low-income farmer group is inadequate.

RATIONALE FOR SERVING LOW-INCOME FARMERS

This group is a concern because of the social, economic, and moral costs to the Nation. The cost of services to these farm and rural families is high, and so are the social and economic costs of the wasted human resources. Decisions on these needs must consider the "tradeoff" in social and monetary values.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

Many low-income farm families include children. The low-resource base of the family and the very limited access to enrichment and developmental programs for children of these families are of national concern. These poorly trained children must seek employment as they reach adulthood. They migrate into towns and cities to find jobs, and, because of inadequate preparation, they either are unable to find employment or find themselves working for very low levels of income.

Library services at all levels could supplement primary and secondary school curriculums. Programs are needed to get these children into local libraries so that they can broaden their vision and use of library service. They could, in turn, help develop library-use habits among the next generation and the program could have long-term benefits.

Parent education is also necessary along with school and library efforts. There are informal educational programs successfully reaching and helping low-income farmers and rural residents. A national expanded food and nutrition program conducted by the Cooperative Extension Service has demonstrated that these families can be reached. They are found to have a desire to change and improve their patterns of living. However, such efforts require a highly individualized approach with very practical and useful information focused on their problems. The Cooperative Extension Service is also conducting pilot programs focused on low-income farmers to help them improve their farming practices and income levels. These pilot efforts are based on the same approach as used in the expanded food and nutrition program.

Library information services are also needed by professionals and paraprofessionals working with low-income farmers and the rural disadvantaged. This might require added resources for library informational systems; however, there could be economic benefits by spreading proven practices rather than having each area testing and searching on its own.

Programs to extend information directly to low-income farmers and rural disadvantaged families ought to be continued and increased. The use of bookmobiles from local libraries is one method, but too often this service is discontinued in low-resource communities because of the loss of Federal subsidies. Bold new methods of using bookmobiles are needed. An example could be an intensive use of bookmobiles carrying simple "how-to-do-it" publications and current periodicals. The unit might include volunteer or paid paraprofessionals who would conduct classes in the mobile unit for children, mothers, and fathers, on practices these families could put to immediate use. A system of distributing extension publications might be initiated through a modified "bookmobile" facility.

CHARACTERISTICS OF FARM LABORERS

The discussion here focuses on the migrant farm-labor force. Other farm laborers who have year-round employment have a rather stable life with opportunity to participate in community services. Their children also have reasonably good educational opportunity. Table 4-3 shows the number of migrant farm workers in the United States.

Table 4-3 Number of Migrant Farm Workers in the United States

Age	Number
14 to 19 years	93,000
20 years and over	103,000

Source: 1970 population census.

RATIONALE FOR SERVING FARM LABORERS

Migrant farm labor is a national concern for many reasons. The lack of a good educational opportunity for children of these families is often a problem. Elementary and secondary schools have adjusted programs to accommodate educational needs of migrant children. However, such adjustments by the school systems are made with limited resources and with little coordination of effort. The school curriculums and the quality of education vary from one section of the country to the next. As the migrant families move with crop planting and harvest seasons, the children become frustrated by the various educational approaches used by different school systems.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

In respect to these conditions, the need exists for coordinated elementary and secondary library information involving the local schools, local libraries, and large central libraries. This might include a system for transferring teaching units from one location to the next. Teaching and study aides currently provided through federally financed programs could be identified as basic reference and source materials for teachers and students.

Additional efforts ought to be made through bookmobile units and mobile classrooms. Such facilities need to be taken directly to migrant housing units. Informal adult educational meetings also are needed. Larger central libraries could provide leadership and assistance to local school libraries and local public libraries.

Cooperative extension, with its home economics, human development, and 4-H programs, provides informal educational programs for migrant families in Indiana. These programs were initiated through the employer of migrant farm labor, leaders of the migrant group, and local interested citizens groups. The success of these programs can be attributed to the strategy for implementing action, in which the program was taken into the migrant housing area, and usable information tailored to the needs of the participants was provided. These efforts could well be applied to other areas.

CHARACTERISTICS OF AGRICULTURAL BUSINESSMEN

Agricultural businessmen include a wide variety of professional and skill types. This group provides production inputs, marketing, transportation, and processing services. Many are college graduates and fit the middle class user group described by Parker. Census data to identify number and type of "agri-business" people is not available.

RATIONALE FOR SERVING AGRICULTURAL BUSINESSMEN

At first it might be assumed that information needs of agri-business people are adequately met. Many participate in continued training provided by the industry or business employing them. In addition, they attend numerous informal educational programs conducted by University Extension and Cooperative Extension Service and others. In addition, they subscribe to many trade journals and receive numerous commercially prepared leaflets and periodicals.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

Agri-business people have information needs that libraries could help fulfill. Small private firms have needs for business reports and other types of information that they cannot afford. These needs could be met through special library subscription services. For example, the library might subscribe to new information services provided by large central State and Federal libraries so better information services could be provided the agri-business community.

CHARACTERISTICS OF PROFESSIONAL AGRICULTURAL SCIENTISTS

In comparison to the total population this is a very small group of people, and the group includes highly trained people who are knowledgeable and skilled in the use of library informational services.

RATIONALE FOR SERVING PROFESSIONAL AGRICULTURAL SCIENTISTS

The library service needs of this group are vital to the research and development of new technology in agriculture. These scientists make very significant contributions to total agricultural production, as well as to the nutritional quality and safety of our national food supply. Therefore, it is important that their information needs be met.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING NEEDS

Specialized information networks tied in with computers and the libraries are evolving and some are in use. Networks that are designed to aid research efforts and to disseminate new technology as it is developed are necessary, and libraries have an essential function to perform.

It would be effective to introduce agricultural scientists to information networks, since these are the key link between the development of new knowledge and clientele in the agricultural industry—commercial farmers and agricultural business firms—and could encourage them to use this information, while they benefited from the information themselves.

OTHER USERS
HOME GARDENERS AND HOME HORTICULTURISTS

This is a large group, mostly homeowners, served by many information sources. These people are very resourceful in their efforts to get information; they receive help from sources listed below.

- Local libraries;
- Cooperative Extension Service;
- Garden club organizations;
- Lawn and garden centers;
- Mass media, newspapers, magazines, radio, television;
- Garden seed catalogues;
- Schools, colleges, and universities; and others.

Economically, the lawn and garden industry is dependent on home gardens. Cooperative extension agents service a large number of people with lawn, garden, and horticultural information, especially in urban counties. Some urban counties have funded positions for a specialized horticultural extension agent to serve the home and commercial horticultural informational needs.

This clientele group could be serviced through a joint library and cooperative extension effort at the local level using a telephone network. They generally have time and resources to participate in the informal educational meetings and to acquire informational materials, and this is a method that local libraries and cooperative extension could use. Informational materials relevant to the needs of this group are available through the Cooperative Extension Service, but to print and distribute such leaflets and bulletins free of charge is almost prohibitive. Library systems could be designed to help disseminate information on home gardens.

Innovations for specialized informational networks, for example, a telephone-answering service to help people with specific questions, could be centered in a library. Other reference and special services could be provided. This also could develop greater public awareness of other services and benefits of local libraries.

INTERESTED ADULT AND YOUTH GROUPS

This last group includes the total population, although it would be unrealistic to expect libraries to reach every person. On the other hand, library information services at all levels could reach many people through local newspaper, radio, television, and other communications networks to help people understand food supply and distribution systems.

Consumers get information through these mass media and other services. Libraries do not need to provide duplicate services; however, libraries ought to provide a core of basic factual information about current issues concerning food production, processing, and marketing that mass-media people could use in feature stories and news articles.

The focus of a library information service ought to provide basic facts and knowledge dealing with current consumer concerns for established information networks that reach the general public. This would require a system of specialized or technical library services to help local newspaper editors and radio and television station managers.

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III. Information Needs of the Business Community

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PREFACE

A librarian is fortunate to have colleagues such as those in the New York area. During the preparation of this paper, I probably too often availed myself of their good nature to extract some of the views included in this report.

Seven librarians visited with me in April 1973 to examine the information needs of the business community. They became so heated in discussion that they left Newsweek's dining room staff with a high regard for the enthusiasm of the library profession. Special accolades then to Shirley Echelman, chief librarian of Chemical Bank; Ruth Fromkes, librarian of Foote Cone & Belding; Jeannine A. Green, director of the division of information service of the Conference Board; Sylvia Mechanic, business librarian of the Brooklyn Public Library; Chris Samuels, chief librarian of McKinsey & Co.; Edward de Sciora, librarian of the Port Washington Public Library; and Prof. Vivian Sessions of the Center for Advancement of Library-Information Science, City University of New York. To "The Newsweek Seven," I am grateful for their candor, perception, and constant focus on excellence.

I accept full responsibility for the thoughts expressed herein. On a few of the points advanced here, some of my colleagues were at variance. However, there was almost total agreement on one point, that, with regard to the information needs of the business world, and, although there are examples of excellence within the library community, the present level of service can be described as mediocre, or at best, "adequate," by library standards.

CHARACTERISTICS OF THE BUSINESS COMMUNITY

Today's business community is undergoing enormous upheaval. A principle that it has so rigidly adhered to in the past—that the sole business of business is to maximize profits—is seriously being challenged by those in and out of the business community. The growing voices of consumer groups demanding a cleaner environment and a greater concern for the public's needs and welfare have affected the deliberations of many a boardroom.

In the present business climate, internal and external information considerations have merged. For example, multinational companies require that their management and operating personnel keep abreast of international political and economic developments, as well as being versed in foreign labor laws, local customs, and the nuances in the application that go along with them.

These changes have given rise to the need for a different breed of executive. Interviews with participants at the Harvard Business School's 13-week advanced management program have profiled the ideal modern executive for the 1970's: "A man who has fresh knowledge and skills ranging from sweeping subjects like world affairs to detailed matters such as the operation of new devices on his desktop" *(1)*. It may well be that the rapid change in events and the increasing information output has created the management problem whereby, according to Dr. Harold Leavitt, professor of industrial administration," . . . for the first time in our history . . . the relative advantage of experience over knowledge seems to be rapidly decreasing" (2). And it follows with some certainty that those who gather and evaluate the information effectively will play a significant role in this changing business climate.

The individuals who constitute this business environment and how many there are of them are facts readily available from the U.S. Bureau of Labor Statistics. The libraries' primary business clientele not surprisingly, is composed of white-collar workers, some 39 million of them, constituting 48 percent of those employed as of April 1972. Moreover, the trend, over the past 10 years, in the movement of the labor force from the cities to the suburbs is significant. In 1960, based on an analysis of the 15 largest metropolitan areas, the central cities provided nearly two-thirds of the jobs in their metropolitan areas. In 1970, only 50 percent of the jobs were located in the central cities, and the trend is definitely continuing in the direction of the suburbs (3). For the purposes of this study it is important to recognize that the labor force is moving away from locations that would give them access to the large general research collections of the cities' public libraries.

Statistically speaking, we do not know how many workers, in which positions, avail themselves of what kinds of library services. In short, though we may recognize many types of library services required by the business community, we cannot, on a national basis, state with any certainty the number of workers who presently or will in the future avail themselves of these services.

RATIONALE FOR SERVING THE BUSINESS COMMUNITY

It is in the public's interest that the business community be a healthy and vigorous one. Providing businesses with information for making sound decisions results, it is hoped, in the production of better and safer products. Additionally, the tax revenues from this segment of society enable the government to provide social and other services from which we all benefit. And, as taxpaying bodies, the business community is entitled to receive the services offered to all segments of the community, including library services.

While dwindling Federal expenditures in many social areas have made it increasingly clear to city governments that they cannot look to Washington for solutions of many local problems, it is not unrealistic to expect the business community to contribute its share to the solutions of these problems. For example, the establishment of prison libraries in New York has occurred because the publishing industry seized the initiative and supplied the books; the economic straits of the New York Public Library have been eased somewhat through the joint financial contributions of government and the private sector; scholarships and endowments are given to New York universities by large corporations that benefit from their graduates' later employment with them; and free or inexpensive cultural events occur regularly in New York City because of the efforts of companies like Schaeffer Brewing Co., Exxon, and the Mobil Oil Corp. Even when the search for profits replaces altruism or feelings of social responsibility, the community can benefit from the results. The profit motive encouraged companies like General Electric, Raytheon, Litton Industries, and others to enter the education field, and U.S. Gypsum, Aerojet, Lockheed, and others to rehabilitate housing areas and train the hard-core unemployed.

For these reasons, it is essential that the business community receive the best information services the community can offer—information that contributes to better product development and information delineating how best to improve the environment in which these businesses function.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

The Meyer and Rostvold study (*4*), completed in 1969, clearly delineates the levels of service, staffing, and collections needed by the business community. And while their report centered upon the public library's services to business in the Pasadena area of California, what they have reported has general application and broad geographical appeal.

The business community requires current, complete, and in-depth library collections, and it cannot be left to the accident of geography to determine the availability of these research materials. Particularly necessary are current product and marketing information, and up-to-date business reference sources, especially business directories. When a company is too small to afford certain specialized collections of its own, the special librarian will look to other special libraries or to the public library's research collections for detailed information in such areas as military specifications, patents, standards, and trade catalogs. In addition, the changing business climate has given rise to a whole spectrum of information needs dealing with such special aspects as welfare, environment, education, and culture.

But materials alone will not suffice to meet the business needs. Librarians well-versed in business and management as well as in current world developments, who are information-oriented rather than publication-oriented, and whose orientation to the profession has instilled in them a determination to ferret out what is needed regardless of whether or not it has appeared in print—a corps of library professionals such as these must be trained in the library schools to serve the professional businessman.

Superimposed on this structure of materials and personnel is the overriding need for information on demand—information that is required within a rigid time frame and that is provided through delivery systems that are beyond those in general use within the library profession. Additionally, libraries must construct an information framework to meet the needs of business, rather than force businesses to conform to predetermined and rigid systems that are established for the ease and comfort of librarians. Telephone ordering of inquiries, mailing, or other modes of delivering information and materials, and circulation or duplication of certain materials presently considered "noncirculating" are all practices considered standard within the special library community and should not be considered irregular by those institutions to whom the special librarian turns for assistance.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

As noted previously, the business community is equipped to produce positive changes within society. Yet one catalyst in effecting this change—the accumulation and **analysis** of information—is not being satisfactorily provided by a profession supposedly dedicated to that purpose.

Following are some examples illustrating the implications of this statement:

(1) According to the 1972 edition of the **"Directory of the Association of American Library Schools"** (p. 91), only three library schools in the United States offer a course solely devoted to sources of business information. In most schools this

subject is one of many included in a course examining "The Bibliography of the Social Sciences."

(2) There is a decided emphasis in library literature and in the deliberations at library conferences on the acquisition, processing, and storing of information and very little emphasis on how information can be used by businesses in problem-solving. Perhaps, as Foster Mohrhardt warned in 1967, while we are emphasizing certain details of our profession, the rest of the world may be rushing past our doors (5).

(3) In a recent conversation, a noted journalist and professor of economics expressed general dissatisfaction with the ability of business librarians to aid him with specific inquiries, primarily because many simply don't speak his language. This raises the question as to whether the profession has done a satisfactory job in recruiting economics and business-oriented students to the profession. In my judgment, it has not.

(4) In the course of speaking at library schools, I find that students receive very little practical orientation to most fields of special librarianship and they have little appreciation of the role played by the special librarian in a business setting. Too often, it is left to instructors with little or no special library experience, or to visiting speakers, to orient the students to this field.

(5) The movement of business to the suburbs has resulted in a "significant group whose unfilled information requirements must place them in the vanguard of the unserved" (6). And the future prognosis for the funding of public and university libraries indicates that these libraries will be providing less service in the future, rather than more.

(6) Business librarians continually complain that government bookstores are overly consumer-oriented and stock publications that are of little interest to the business community. In New York, for example, where the business community is a major consumer of government materials, libraries suffer long delays in obtaining such important materials as the Federal Budget and **"Economic Report of the President."** In short, government bookstores can serve the business community much better than they presently do.

(7) One of the more disturbing aspects in the researching of this paper was the simple discovery that there is almost an absence of articles on "libraries" in the literature of business and management. One almost gets the feeling that it is a phenomenon of our literature alone. Peter Drucker's celebrated book, **"The Age of Discontinuity,"**

and Alvin Toffler's "**Future Shock**" both characterize this era as one of rapid change, placing much emphasis on important changes in information and education. However, in neither book is there any mention of today's libraries or those of the future. And again, Judson Gooding, in a recent "**Fortune**" (7) article discussing the executive's need for current and reliable information, interviews a number of executives for their comments on how they cope. Nowhere do Gooding or any of the interviewees allude to the existence of libraries.

Perhaps from all of this might be deduced the fact that, given our present standards of service, librarians should be challenging the very essence of what they do, instead of deluding or lulling themselves into a false sense of security regarding their importance to the business community.

STRATEGIES FOR FILLING UNMET NEEDS

Some strategies that would help to meet the needs of the business community are offered below.

(1) The Special Library Association, primarily with the active support of its members, must recruit potential librarians from the Nation's business schools.

(2) Library schools must offer specialized instruction for students desiring to work in business libraries. Particularly, stress must be placed on courses dealing with business sources and special library administration, and these must be taught by instructors with previous special library or business experience. Additionally, there must be greater opportunities in the library school for students to select a greater number of specialized courses in other subject departments, such as business administration.

(3) Business librarians—indeed, special librarians—should be encouraged to write articles for the leading journals of business and management, emphasizing particularly how business operations might benefit from library services. Perhaps the awarding of monetary prizes for outstanding library articles appearing in nonlibrary literature might encourage greater participation in this area.

(4) Regional Government Printing Office bookstores, perhaps with the assistance of local chambers of commerce, should survey the business communities in the areas they serve in order to determine exactly what kinds of materials these businesses require and how rapidly they must acquire them.

(5) The business community's awareness of libraries and library services might be considerably enhanced by providing business students, or students working in any specialized area, with formalized library in-

struction, supplemented by course-related assignments. This point of view has recently been reemphasized by Dr. Raymond Read, assistant professor of management, and Dr. John Lee, associate professor of management, both of whom teach at Florida State University and who have, over the past 2 years, coauthored five articles dealing with the role of the library in graduate, undergraduate, and business executive education. Dr. Read has stated that "our surveys indicate that business students would welcome a short course on library instruction" (8).

(6) Meyer and Rostvold (p. 122) suggest quite properly that companies that are without special libraries or that have libraries that need to be supplemented by larger collections should look toward the public library for informational support. Examples of this type of public library support, suggested by Bourne, are "law libraries, business and industry libraries, patent collections, and subscriptions to specialized indexing and abstracting services" (9).

The only uneasiness I have about the Meyer and Rostvold study, now that 4 years have passed since its completion, concerns the locus of their attention—the public library. Perhaps it would not have been questioned in 1969, but in 1973 severe reservations must arise about the ability of either the public library or the university library to meet the demands of the business community in the future. They do not meet that demand now and it is not clear how their staffs and collections will significantly expand and improve in the future, given the present outlook for the public funding of libraries.

If certain of the present deficiencies are to be remedied and the standards of service discussed in this report are to be realistically approached, then a tremendous shift in thinking must occur within the library community.

No library or small group of libraries can go it alone. The development of regional networks or special, public, and university libraries, tied together by telex, facsimile equipment, CRT terminals or whatever, exchanging not only materials but information, appears to me to be a logical direction in solving business information needs within a climate of economic stringency. Businesses will financially support a portion of this development if it is demonstrated to them that the expenditure brings results that would not be obtained otherwise.

Public libraries must play the major role in forming these regional library networks. The nucleus of this network presently exists. There are about 100 public library units with specialized business collections spanning the United States. However, without the infusion of Federal and State moneys, public library services to the business community will continue to remain a relatively passive and unsatisfying experience to both parties in the relationship.

The suggestion for regional reference centers serving the business community is a logical one when the user is considered as the starting point. The National Commission on Libraries and Information Science is to be commended for this approach in its attempt to determine how best to meet the information needs of the various segments of the U.S. business population.

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IV. Library and Information Service Needs of Labor

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INTRODUCTION

The term "labor" has been used—somewhat confusingly—for "employees," "labor force" and "labor movement." For purposes of this paper, the phrase "labor" denotes those men and women, both blue collar and white collar, who are attached in some way to the organized labor movement[*]. This gives recognition to the fact that organized labor, representing as it does a specific segment of society, is a viable group with identifiable objectives. In addition, it should be noted that although organized labor comprises only about one-third of the total number of wage and salary earners, it does have a significant impact on the entire labor market, establishing patterns of employment terms and conditions for large groups of unorganized workers. Much of what is said in this paper regarding library and information services to labor may be applied to unorganized and organized labor alike.

CHARACTERISTICS OF THE LABOR GROUP

The Federal Government reported (*1*) that, in 1970, the total civilian labor force (persons 14 years old or older) numbered 82.7 million. Of these, 78.6 million were employed. Of the employed, 48.3 percent were white-collar workers, including professional and technical workers, managers, salesworkers, and clerical workers. The remaining were blue-collar workers, service workers, and farmworkers, with blue-collar workers representing 35.3 percent of this group.

A recent Bureau of Labor Statistics study (2) reported that, in 1970, there were 185 national unions in the United States with a total membership of 19.7 million, this membership representing 22.6 percent of the total labor force. Of the national unions, 120 were affiliated with the American Federation of Labor-Congress of Industrial Organizations (AFL–CIO), claiming 77 percent of the total union membership within the United States. The report showed that women members of labor unions numbered 4.3 million, an increase of 342,000 since 1968, and that white-collar membership reached a new peak in 1970, totaling 3.4 million. The latter figure is of special importance because it points out that the wave of the future for unionization probably exists among white-collar workers, including not only office and clerical workers but professionals such as teachers, engineers, social workers, and librarians. Of equal importance is the increasing number of public employees, on all levels of government, who are entering the ranks of labor organizations. A recent issue of **Time** Magazine (3) indicated that the American Federation of State, County, and Municipal Employees is one of the fastest growing unions in the AFL–CIO, adding about 1,000 new members each week, of whom about one-third are women and one-third are blacks.

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[*] Note should be taken that an increasing number of professional and public employee associations now engage in collective bargaining

The AFL–CIO is the parent organization within which labor unions operate. It is a federation of national unions, trade departments, State and local bodies, and directly affiliated local unions. Most of its activity is concerned with legislative and political action, international affairs, and matters that affect several or all unions. The AFL–CIO charters State and local (mostly county) central bodies, which work primarily on legislative, political, and community problems on the local level. There are local subdivisions of national unions whose activities are concentrated on the needs of local union members.

RATIONALE FOR SERVING THE LABOR GROUP

Trade unionism is a major institution in the United States, having significant impact on the economy. Moreover, national policy accepts collective bargaining as a basis for dealing with labor-management relations. It is, therefore, in the public interest to have a well-informed group of workers, able to function effectively in society.

As one of the major participants in collective bargaining, labor needs a wide range of library and information services if it is to cope with the complexities of economic and social problems. This is particularly important in view of the increasing significance of public-employee labor groups and organizations of professional people. Without minimizing the continuing library and information needs of traditional labor unions, cognizance must be taken of the special information needs of these newer labor groups, a large proportion of whom are better educated and need more sophisticated library and information services than have been hitherto provided.

Libraries have usually made efforts

to serve special groups, such as businessmen and scientists, on the basis of the proposition that libraries can most effectively serve the needs of individuals through their group affiliations. Likewise, the information needs of labor can be most effectively served through the organized labor movement. The Nation has just as much stake in having well-informed labor as in having well-informed businessmen, doctors, and lawyers.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Library and information needs of labor grow out of the labor education needs of workers. Rogin and Rachlin (6), in their study of labor education in the United States, say that "Labor education . . . is the branch of adult education that attempts to meet workers' educational needs and interests as these arise out of participation in unions. It is education directed toward action. Its programs are intended to enable workers to function more effectively as unionists, to help them understand society and fulfill their obligations as citizens, and to promote individual development." It is the thesis of this paper that library and information services to labor are integral elements of the labor education process.

As with education needs, the library and information service needs of labor vary with the individuals and their functional roles in the labor organization. The rank and file members, the staff representatives, and the local union officers all have specific information needs, some uniquely pertinent to a designated union responsibility, others applicable to the group as a whole. The unionist requires information on such topics as basic trade-union principles, labor history, international labor activities, and labor law; in his collective bargaining relationships, he needs current information on wage and salary determination, the economic impact of inflation, negotiating techniques, grievance handling, and arbitration. As a union administrator, he looks for information on leadership techniques, parliamentary procedures, public speaking, conference methods, and staff development. In the face of technological developments, he needs to know more about the effects of automation, the environment of the workplace, job satisfaction, and work humanization.

As a citizen and participant in community life, the unionist asks the library to assist him in understanding the problems of urban society, to provide him with information necessary to develop his leadership potential, and to help him comprehend the nature of intergroup relations.

In a society of the shorter week and the resultant increase of leisure time, those who provide library and information services have an obligation to provide access to that knowledge that will support the workers in their lifelong education programs. This obligation includes resources to aid workers in seeking high school equivalency diplomas, information geared to their higher education aspirations, and services that will help them participate knowledgeably in cultural activities.

The specific library and information services objectives for labor, in priority order, should be:

(1) Provide collective bargaining information to assist labor in its employer-employee relations.

(2) Provide information on the development of labor and trade-union principles and practices so that labor may be better informed on its heritage and have the ability to perform more effectively in relation to organizational objectives.

(3) Provide information on economic and social problems as they affect the interests of labor, such as international trade, civil rights, race relations, and housing, so that, in gaining a better understanding of society, labor may contribute to the solution of society's problems.

(4) Provide individual labor people with the information necessary to make them better informed citizens of their communities and to assist them in their lifelong education programs so that they may enjoy full development of their personalities and an improvement in the quality of their lives.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

The growth of library and information services to labor has been extremely slow, with some peaks and many lows. Probably one of the periods of most active service existed in the 1950's to the mid-1960's at a time when the American Library Association Joint Committee on Library Service to Labor Groups was most active in pressing for such services. Since that time, there has been a decline in services, particularly at the public library level, with the disappearance of special services for labor from such noted libraries as the New York Public Library and the Detroit Public Library, where significant library and information services had been available.

In 1967, the Joint Committee on Library Service to Labor Groups developed a questionnaire on the extent and nature of library services to labor. It was sent to approximately 950 public libraries; the results were tabulated by Rogin and Rachlin (6, p. 203) for their study of labor education. From the 950 questionnaires mailed, 384 usable ones were returned. Of these, only 156 of the libraries reporting knowledge of unions in their area indicated that they had contact with unions.

The implication of this survey (and it is borne out by this writer's observation of the current scene), is that despite the need of labor for library and information services of all types, relatively little assistance is given by public libraries. Moreover, the assistance labor does receive is frequently inadequate to the needs.

When asked about library and information services to labor, librarians frequently indicate that labor groups are difficult to work with and that tremendous effort must be expended to obtain relatively little response from labor. This is, of course, true to a certain extent of most library activity with special groups. However, it is interesting to note that in the library survey reported by Rogin and Rachlin, of the 156 libraries that contacted labor, only 8 reported that the unions failed to respond to their offers of help. As Rogin and Rachlin say in their discussion of public libraries and unions, "... the library as a community institution has the responsibility of insuring that its resources are adequate to the needs of the total community and that the community uses them. In part it is because the librarian is a professional dealing with a lay population generally unfamiliar with the use of what appears to be a specialized resource. The librarian, therefore, is responsible for understanding the needs of the group and for demonstrating which of the needs the library can meet and how it can be used to meet them" (6, p. 206).

So that the picture painted may not appear too bleak, note may be taken of the library and information services that are developing at the university and college level in association with labor education and labor studies programs. Such services, many providing specialized and individualized information services to labor, often have been affiliated with industrial relations institutes but are increasingly developing their own separate identity. Also, attention in the near future should be paid to the effect that unionization of professionals will have on library and information services. The expectation is that different, more demanding needs will exist and that this group, which is more oriented to using library and information services, will expect libraries to provide them information pertinent to their organizational responsibilities.

STRATEGIES FOR FILLING UNMET NEEDS

Filling the unmet needs of labor will require that services to this group be essentially an outreach effort, with desirable results occurring only if library and information personnel take affirmative action to provide the information required.

Specific strategies that may be employed are:

(1) Joint planning by labor and libraries on the library and information services to be provided, recognizing that it is essential that good and continuous communications exist between the two parties.

(2) Development of a network labor information service that could stretch from the U.S. Department of Labor Library, through union headquarters libraries, to

university and college labor-relations information centers and to State and local libraries.

(3) Coordination of all labor library and information services within limited geographical areas so that effective service will take place on all levels.

(4) Assignment of library and information services, especially at the local level, to a staff person or persons who can relate well to labor's needs.

(5) Making special efforts to provide a wide range of labor-related audiovisual materials, as supplements to the printed materials that are now available.

Table 4–4 Library and Information Services to Labor

Type of information	Purpose to user	Response speed	Delivery mode	Priority
Collective bargaining data.	To assist in labor-management relationships.	Various depending on status of collective bargaining.	a. Printed sources b. Government agencies c. Inquire of individuals in the field (other unions, mediators, etc.) d. Research agencies	1
Trade union principles and practices.	To be better informed unionist.	Within 1 hr	a. Printed sources b. Audiovisual materials c. Oral history	2
Economic and social problems of society.	To understand role of labor within broader concept of society.	Within 1 day ordinarily	a. Printed sources b. Audiovisual materials c. Discussions with experts	3
Individual needs of labor.	To assist individual in continuing education and to become better informed citizens.	Various	a. Printed sources b. Audiovisual materials c. Community organization d. Educational institutions	4

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V. Service Objectives for the Biomedical Field

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INTRODUCTION

To those engaged in work in the biomedical field, library and information services can be viewed in two ways. To those on the outside, who are comparing such services to the ones provided for other professional groups—say, clergymen or schoolteachers—the library and information services available to biomedical professionals seem abundant, well-conceived, easy and inexpensive to obtain, and presented in a variety of ways. To those working inside the biomedical field, on the other hand, library and information services seem haphazard, with gaps in coverage, and with an orientation to an older concept of biomedicine; they seem difficult and expensive to use; and they are not available at all to many who need them, because of geographic or financial constraints. Probably both statements are true in the general sense: certainly biomedicine has a far better network of library and information services than do most other professions, including the law. Comparatively, therefore, biomedical workers are bette. off than others. Absolutely, however, much needs to be done, as this paper will indicate.

To begin with, it is necessary to define the biomedical field and to try to furnish some quantitative, geographical, and educational data about those involved in it. Next, a few words should be said about the present library and information systems in biomedicine, and, where appropriate, it would be helpful to examine their "fit" to modern needs on historical or other principles. The final portion of this paper will attempt to make certain suggestions for the future.

CHARACTERISTICS OF THE BIOMEDICAL COMMUNITY

Biomedicine is an umbrella term that can include such disparate groups as physicians, dentists, pharmacists, biochemists, biophysicists, social workers, hospital administrators, medical librarians, prosthesis makers, technicians of many kinds (e.g., laboratory workers, physical therapists), dieticians, medical sociologists, and medical historians. It has been said that the modern medical center is the best institution in the world for a sociologist to study because it includes more different kinds of workers than any other single institution in existence.

Because this is so, it is difficult to determine how many biomedical workers there are in total in the United States now. Some of the figures that are available are listed in tables 4–5 and 4–6.

Table 4–5 Number of Individuals in Biomedical Professions

	Number	Date of statistics
Physicians	334,028	1971
Dentists	114,680	1967
Nurses:		
(1) Registered nurses	723,000	1971
(2) Practical nurses	400,000	1971 *
(3) Others	850,000	1971 *
Hospital administrators	17,500	1970 *
Faculties of medical schools (full time)	29,469	1971/72
Medical librarians	2,700	1972
Members of certain biomedical professional associations:		
(1) Bacteriologists	15,000	1971 *
(2) Biochemists	3,000	1971 *
(3) Anatomists	2,208	1971
(4) Physiologists	3,933	1971
(5) Clinical pathologists	16,000	1971 *

* Estimated.

Table 4–6 Number of United States Institutions

Hospitals	7,638	1970
Medical schools	102	1972
Group medical practices	6,400	1969 *
Clinics	8,000	1971 *

* Estimated.

Figures are not known for:
(1) Physicians' assistants
(2) Dental assistants
(3) Midwives
(4) Medical social workers
(5) Occupational therapists
(6) Physical therapists

Serving this group are some 5,000 biomedical American library and information services of varying size and offerings. We know most about the largest: the National Library of Medicine (NLM), the medical school libraries, a few medical society libraries, and the larger hospital collections. Such commercial and semicommercial institutions as the Institute for Scientific Information and *Biological Abstracts* are also providing important services. What we know least about is the information-disseminative work done by "detail men" from pharmaceutical firms, although we have suspicions that they provide a large percent of the practicing physician's information input. Finally, we know almost nothing about the size of the biomedical group that never uses formal information systems for updating their basic knowledge or for solving problems.

Whatever the gaps in our knowledge, we do know that the size of the group is very large, and this allows both for economy of scale and for difficulty in tailoring the total to individual needs. But the latter is of the essence of the problem today. Methods in use now for providing library and information services are based primarily on the configuration of the biomedical community and its sources of information before World War II – some, even, would say before 1900! In those days, the biomedical community was more homogeneous in its educational preparation and in the provision of its services, the information was disseminated in packages that had not changed greatly since the establishment and proliferation of the scientific journal in the late 17th century, and the proliferation of new information was much slower than at present.

Instead of serving the needs of people who were all educated in graduate professional schools and who communicated only with each other and only on scientific and professional topics, today's library and information services must answer to the needs of widely varying groups. *Index Medicus* and MEDLINE are fine for the medical center clinician or physiologist; they serve less well his MEDEX assistant, his nurse-practitioner, his radiological technician, the community worker in the inner-city health center, and the committee that is deciding who shall get renal dialysis and who shall not. No other information and no other method of making it available to groups other than the monolithic scientific-professional biomedical community have been designed, with the result that these groups either do not get the information or get it secondhand and in nonstructured ways. Even professionals who are some distance from centers of population and from centers of biomedical research are expected to use the same information sources as the others, rather than having information methods appropriate to their needs.

RATIONALE FOR SERVING THE BIOMEDICAL COMMUNITY

Our society believes in – or at least gives lip service to – the concept of the sanctity of life, although the way we treat the disadvantaged might belie this statement. Since the purpose of biomedicine is to lengthen and improve life by removing illness and physical and mental disabilities, little more need be said about the desirability of helping biomedical workers to reach their goals. But an economic argument also prevails here too – an argument first put forward by William Petty in the 17th century, and produced in modern form by Edwin Parker for the National Commission on Libraries and Information Science:

> Now suppose that in the King's Dominions there be 9 millions of People, of which 360,000 dye every year, and from them 440,000 are borne. And suppose that by the advancement of the art of Medicine, a quarter part more may be borne and a quarter part fewer dye. Then the King will gain and save 200,000 subjects per annum, which val-

> ued at £20 per head, the lowest price of slaves, will make £4 million per annum benefit to the Commonwealth (4)

As Petty observed, "it is not the interest of the state to leave Phisitians and Patients . . . to their own shifts"; the same argument holds today, although the views of some legislators and others who hold purse strings make this argument weaker than is to be desired. The trend to antiresearch, stricter and stricter accountability of grantees and employees, the pejorative remarks about "throwing dollars at a problem," the sneering comparisons between academicians and "those who do," and the acrimonious debates about community control of health institutions leave one wondering if, indeed, the health of the nation has as high a priority as would be expected.

CHANGES IN MEDICAL CARE DELIVERY AND THE IMPACT ON HEALTH SCIENCES LIBRARIES

Because medical care delivery is shifting from solo practice for most physicians to group practice, from fee for service to prepaid medical care (often through third-party payers), from little use of physician "extenders" to enormous growth of less well educated or more narrowly specialized assistants, from simple equipment to very sophisticated instrumentation, and from laissez-faire attitudes in medical care to control by government and peer systems; and because there is a definite antiresearch, antiintellectual spirit manifest today in governmental and private groups holding medical purse strings, the medical information delivery system developed earlier is beginning to break down in its attempt to serve everyone. Put another way, modern medicine requires more diverse means of providing information than have been worked out yet.

The diversity of kinds of workers in the medical field requires systems that take into consideration the differing subject needs now evidenced; the educational level of each group; whether users come to the libraries and information systems for the answer to a particular problem, for general updating of their store of knowledge, or for inspiration; and whether users need the information at their working area or can be expected to come to some other place (library, meeting of professional group, hospital, etc.) for that information. As I have said before (1) I believe that in the future there will have to be more mediation and synthesis of the information by the librarian and information scientists, if it is to make any impact on certain groups that are growing in importance in the medical field. The recent discussions of the legislature in the State of Michigan on setting up a new State medical school (2) point up the needs of one group for information on their level.

Future medical information systems will have to tap subjects not generally thought of as medical (such as economics, the structuring of society, the values of research ethics, the position of elite groups). They will have to provide its information on various levels for the different backgrounds and uses for which this information is necessary, and they will have to search out dynamically those who do not now use medical information systems, rather than passively expecting users to search them out. Librarians and information specialists will thus be "factors unto knowledge," as Durie noted in the 17th century (3) "to use them and see them well used"—the same concept as our present "switching device."

DESIRABLE SERVICE OBJECTIVES

Some objectives that should be met to provide information to the biomedical field are outlined below.

(1) To provide information tailored to the needs of the individual or the group within the medical field would encompass:

  (a) providing data and information rather than bibliographic pointers to where the data or information is;

  (b) providing data and information at the level at which it is usable by that individual or group;

  (c) providing mediators to the published material to interpret the information. This implies selection and value judgments, a new concept for libraries, if not information centers;

  (d) providing information in both demand and automatic modes; and

  (e) providing it to everyone close to his need geographically, and at a cost he can afford.

(2) Information should be of such obvious value to the health, well-being, and economy of the country, that citizens would be willing to underwrite it financially.

STRATEGIES FOR FILLING UNMET NEEDS

Following are some strategies for meeting these goals:

(1) Train different kinds of librarians and information scientists from those who enter the field now. Place more emphasis on knowledge of the subject, ability to transmit data and ideas succinctly, ease in making correct value judgments, and a liking for people of all levels of education and background.

(2) Build a system for tapping many different sources of information on many subjects—other libraries in all fields, a national lending service such as Great Britain has and the Center for Research Libraries in Chicago is considering, government statistical publications, specialists on specific subjects, and overviews of foreign materials in biomedicine.

(3) Provide services at the "point of impact of need" rather than requiring the individual needing the information to come to a central point. Obviously, new technologies such as satellites

Table 4–7 Library and Information Needs of the Biomedical Community

Type of information	Purpose to user	Response speed	Delivery mode	Priorities *
1. Newly discovered facts in small field (typical users: scientists).	a. To keep up with advances in field. b. To provide inspiration for further work. c. To lead to generalizing concepts and theories in field.	Medium (1 day—2 weeks) but must be obtained regularly.	Automatically by some selective dissemination of information system. Can be provided by surrogates, originals or digests.	
2. Generally accepted knowledge (typical users: technologists).	a. For problem-solving. b. To safeguard against malpractice suits.	Fast (immediate to 1-2 days).	On demand and presented at place of need. Information, not citation needed.	
3. Synthesized technology (typical users: technicians).	a. To answer general question of "How to do it" type. b. To keep technicians aware of new developments.	Generally not urgent, but interest of user is soon lost.	Production of newsletters, information bulletins, fact sheets, etc. Must be at educational level of recipient.	
4. General educational information (typical users: laymen).	a. To give nonbiomedical people background for informed decisions and actions. (E.g., what injections should I get for a trip to Mexico? What effects will poor water supply have on typhoid rate and therefore costs of hospitalization?) b. Pleasure in knowing. c. Cross-fertilization of ideas between people of different professions (e.g., entomologist and engineer).	a. Must be tailored to individual needs. b. Can be fairly slow. c. Can be fairly slow.	Print Film, TV, and other media. Factsheets Handouts Articles in newspapers and magazines. Movie spots Work with other groups and institutions.	

* These are all equally important. It will cost more and take more time to tool up the people and design the system for No. 3, because it has not generally been done up to now, but there is no reason why all 4 kinds of information could not be provided simultaneously by the same institution or groups of people within an institution. Because No. 1 is provided best today by our present institutions, and because the recipients of this system have the greatest "clout," it will undoubtedly continue to be the leader, even if the other tasks are undertaken. Since funds to do the latter are likely to come—directly or indirectly—through recipients of the work of No. 1, it will be necessary to persuade them, and through them the purse holders, that they and society will benefit by paying more attention to the other groups. (This is community control, in essence.) Because task No. 1 has been worked up to a fairly high degree of sophistication, greater gains in productivity will probably be quite expensive.

and long-line computers and copying devices are important here.

(4) Have the library and information service become the "detail man" for knowledge by contacting the individual biomedical worker in his office or laboratory or clinic, rather than waiting passively for him to call on the information source for help.

(5) Start in the professional schools to show the students how to use the newer information services and how they can be of use to him regularly, so that he will turn to them automatically after his graduation.

(6) Help legislators, boards of control, and others who provide money to obtain an understanding of the economic value of providing funds for biomedical information services needed in our postindustrial society.

CONCLUSION

None of the above suggestions contain any new or startling ideas. In spite of the glamour of fictional stories of "scientific breakthroughs," biomedical advances tend to be small bits of understanding added to mankind's store of knowledge, which, like reefs in the sea, build up unseen over many years, until one day they break through the waters and are observed by everyone. Biomedical information services may be expected to go through the same methods of natural creation.

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VI. Library and Information Needs of Creative and Performing Artists

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CHARACTERISTICS OF CREATIVE AND PERFORMING ARTISTS

The total population of creative and performing artists in the United States is difficult to estimate accurately, especially because few, other than certain performing artists, are covered by census occupational figures. Creative artists, in particular, often operate on a freelance basis or make their living at another profession – most frequently as college or university teachers. The latest census figures register a total of some 65,000 persons professionally employed as performers by producing organizations in the fields of music, theater, and dance. To this would have to be added creative artists in these fields and in such areas as literature, the visual arts, film, and, perhaps, architecture. It seems reasonable to put the total at well under 1 million, probably under half a million.

In most branches of the arts, the preponderance of professionals are concentrated in urban centers, for economic and intellectual reasons. (Exceptions to this pattern of population distribution are found primarily in the nonperforming arts – literature, the visual arts – where some workers are not dependent upon the intellectual and informational facilities available primarily in the larger cities or university centers.) Performing artists, and creative persons in the performing arts, have tended to cluster where audiences and media centers are located, although it may be noted that this concentration is much less limited to the very largest cities than it was a few decades ago. To a considerable degree, it is generally true that artists who require library services are within reach of existing libraries with considerable resources; however, they may not be there primarily because of the library service, nor does this mean that they are well served.

RATIONALE FOR SERVING CREATIVE PERFORMING ARTISTS

Although the number of artists is relatively small in terms of the total national population, and their information needs relatively specialized, the magnitude of the arts audience in the United States is considerable. Although it is difficult to come by accurate figures for the size of this audience, a fairly indicative figure is available from an as yet unpublished survey for the Associated Councils of the Arts: roughly 94 million people (70 percent of the adult population) attended at least one formal arts activity (i.e., a performance event or a cultural museum) last year. This figure does not necessarily include (except through overlapping) the audience for literature or cinema, but does give an order-of-magnitude approximation of the secondary public that has a stake in adequate library service for the artistic community.

The sheer breadth of library materials that artists may require at some time or other in their careers makes them especially dependent upon the library network (in which connection one might also note the economic stringency that many of them undergo at some point in their careers, limiting the possibility of their building large personal libraries). Too, the increasing prevalence of artists educated in college and university situations (rather than by apprenticeship or in professional schools) is doubtless leading to a greater awareness among them of the ways in which library and information services can be useful in the practice of their professions.

Furthermore, library services that will assist artists are by no means useful only to them; in particular, access to the arts of the past and of other cultures is of value to the general public in terms of enrichment and enjoyment, so that the special services and information that we design for the artistic community can and should be coordinated with services to the wider arts audience.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

In general, one may say that the literary arts have been best served by the library system; their primary medium is the book, which is, after all, what libraries were created for and know best how to handle. But modern technology has greatly expanded the types of material dealing with the arts, particularly the performing arts. Diverse audiovisual formats now constitute a significant—and often much more direct and meaningful—means of access to artworks (and also, sometimes, to matters of artistic technique, as for example lecture-demonstrations by painters or musical performers, which can be far more communicative than books).

With the probable exception of the phonograph record, few of these new media and formats have been extensively integrated into our libraries—perhaps understandably, given the lack of standardization (e.g., with respect to video recording) and the considerable financial investment required for hardware. In some media—specifically including the phonograph record—prevalent standards of cataloging and the state of current bibliographical tools are inadequate to permit easy access to important classes of material (e.g., single recordings or shorter musical works).

For the most part, too, the vernacular or popular arts are less well served. Like other of our cultural institutions (including schools), libraries have often tended to consider only the so-called "higher arts" as suitable objects for study and acquisition. This attitude is changing, but it remains too often the case that, while popular books of the past (and some printed manifestations of popular culture) are readily accessible through the library system to, say, a writer who may find them valuable fodder for his creative imagination, popular records of the past (and even printed music) are to be found only in a few specialized archives, nearly all of them understaffed and underfunded. Furthermore, because of the legal grey area surrounding fair use and copyright in recordings, most such archives are unwilling to make copies available for off-premises use or to make the fragile originals available for loan.

In film, the situation is similarly difficult; outside of a few large urban centers, a filmmaker who might wish to study a specific film has little hope of seeing it. A few standard "classics" are available for library purchase, but access to the film literature at large is mostly a matter of chance, dependent upon what circulates to local film clubs or turns up (often in mutilated form) on television. Obviously, considerations of copyright and commerce are operative here, but films do have finite copyrights, and eventually they will fall into the public domain; the library system of the future should be prepared to make the works of Griffith or Busby Berkeley as accessible as those of Shakespeare and Agatha Christie.

Dance is another problem area. It is an art that traditionally has lacked any satisfactory form of transmission or preservation except by word-of-mouth. Today, film or videotape, and recently developed dance notations, have changed that situation, but such materials are not widely accessible outside of two or three archives; where such a collection exists (as at the New York Public Library), its importance to the professional world has been enormous—witness the enthusiastic support accorded by those who have come to depend on it.

Finally, artists often need to know about the results of historical and technical scholarship in their fields, but they lack the time and (usually) the bibliographical expertise to cope with the ramifications of the scholarly literature. Better bibliographical and abstracting services (as exemplified by the computer-assisted **RILM Abstracts** project in music), and the availability of skilled librarians, are necessary to bring artist and information together, particularly in the historically oriented performing arts.

STRATEGIES FOR FILLING UNMET NEEDS

The following is a list of possible strategies for filling presently unmet needs of creative and performing artists.

(1) Increased awareness is needed of the importance of nonbook materials, especially in relation to the vernacular arts. There are important collections of such materials not yet readily accessible, and funds are needed to bring them into the public system and to make them ready for use.

(2) Specialized arts librarians, with expert knowledge of their fields and of the technologies now being developed, should be trained.

(3) Audiovisual systems should be developed and adopted for library use. They should have the technical capability of transmitting high-quality sound and high-definition pictures if they are to serve the arts public satisfactorily. The purchasing power of the library system should entitle it to considerable influence in terms of standards (and standardization) for such systems.

(4) The state of bibliography in the arts needs improvement, especially with respect to nonbook materials. Some of these areas are of joint interest to the artistic and scholarly communities, and the skills and support of learned societies can be enlisted; others (e.g., discography) are as yet underdeveloped disciplines, and standards need to be established.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Library and information service needs of creative and performing artists are listed in the table below.

Table 4–8 Library and Information Service Needs

Type of information	Purpose to user	Response speed	Response mode	Priority
Creative artists:				
Specific art work	Creative stimulus, enrichment.	Day-month	(*)	2
Information about artworks	"	"	(**)	2
Technical information	Problem-solving	Day-week	(**)	1
General information	"	"	(**)	1
"	Career advancement.	"	(**)	1
"	Creative stimulus, enrichment.	Day-month	(**)	2

Table 4-8 Library and Information Service Needs—Cont.

Type of information	Purpose to user	Response speed	Response mode	Priority
Performing artists (in addition to above):				
Specific artwork	Career advancement	Day-week	(*)	1
Specific performance of an artwork	do	do	(*)	1
Information about artworks	do	do	(**)	1

* Response mode appropriate to the particular art:

Literature	Print.
Music	Print and/or sound recording.
Dance	Audiovisual preferred, but written notation or photographs better than printed materials.
Theatre	Print and/or visual materials.
Visual arts	Book or photographic materials.
Cinema	Film or comparable audiovisual medium.

In the case of a performer's need to study a specific performance, only audiovisual materials are likely to be satisfactory.

** Print materials often satisfactory, although the services of specialized librarians may be necessary to locate them; in certain cases, audiovisual materials are preferable.

VII. Library and Information Needs of Social Services Personnel

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The complexity of life in modern society has greatly increased the need for organized social services. Social workers provide the link between these services and the individuals and families who are not able to provide for themselves or who need assistance in solving their problems.

CHARACTERISTICS OF SOCIAL WORKERS

Recent statistics show that approximately 170,000 persons are employed in social-work positions in this country. About 60 percent of these work in Federal, State, county, or city government, and most of the remainder are in voluntary and private agencies. Some 10,000 of the latter are listed in the **"National Directory of Private Social Agencies,"** which includes only those welfare agencies that give direct help or referral service to individual applicants.*

The majority of social workers provide social services directly to individuals, families, or groups. However, many hold administrative or executive positions; others teach and conduct research. The services that a social worker might perform are many, and these services vary according to the particular setting in which he is employed. There are marked differences in the tasks assigned to each type of setting and the problems presented by the clientele served. These factors determine the specialized knowledge needed and affect the methods used to accomplish the goals of a particular agency. The fields of practice in social work may be identified as: Family and child welfare, medical social work, psychiatric social work, school social work, social planning, and corrections.

The work of the family welfare worker and the child welfare worker are very closely related and the methods used are similar. Social workers in family-service positions provide counseling and social services that strengthen family life and help clients to improve their ability to function in a social setting. Child welfare workers are concerned with the physical and emotional well-being of deprived and troubled children and youth. They advise parents on child care and rearing, as well as counseling children and youth who have social adjustment difficulties. They also handle adoptions and the placement of children in foster homes or specialized institutions.

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* "National Directory of Private Social Agencies," compiled by Helga B. Croner, Queens Village, New York. Croner Publications.

Medical social workers are employed by hospitals, outpatient clinics, health agencies, and rehabilitation centers to aid patients and their families with social problems associated with illness, recovery, and rehabilitation. They are usually members of an interdisciplinary team composed of physicians, therapists, and nurses. The medical social worker can help the patient adjust to his illness and work out a pattern of life that is both consistent with his physical limitations and satisfying to him.

Psychiatric social workers provide services for patients in mental health hospitals, clinics, and residential treatment facilities. They, too, are members of interdisciplinary teams including psychiatrists, psychologists, and therapists. They develop and report information on the patient's family and social background for use in diagnosis and treatment. They help patients respond to treatment and guide them in their social adjustment to their homes, jobs, and communities.

School social workers are concerned with helping children whose unsatisfactory behavior or progress in school is related to their social problems. They consult with parents, teachers, counselors, and other school personnel in identifying and seeking solutions to problems that hinder satisfactory adjustment by the child.

Social planners direct their attention to planning, organizing, and directing new or improved social services or approaches to alleviating social problems. These social workers are concerned mainly with bringing about changes in the structure of the community and with increasing the ability of community groups to solve their problems.

The efforts of social workers in the correctional setting are directed to the resocialization of the offender while he is incarcerated or on probation or parole. They counsel persons on probation or parole and help them to secure necessary education and employment.

Just how well the library and information needs of social workers are being met at the present time is not easily determined. A study of the use of the public library by social service personnel made by this librarian in 1967 in four large cities in Wisconsin, Michigan, and Minnesota* indicates that though social workers do use the library, the use does not measure up to the need indicated by the demands of their profession.

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*[illegible] "Public Library Services and Their Use by Professional Staffs of Welfare Agencies." Madison: University of Wisconsin, 1967.

RATIONALE FOR SERVING SOCIAL WORKERS

Because social workers influence change and guide decisions, they should have a constant flow of materials as sources of new ideas and information. Social workers are heavily involved in many areas of governmental and voluntary efforts to improve life conditions, control people's behavior, and make possible various kinds of changes in welfare; in work with law violators; with the physically and mentally sick; and in schools. They fulfill various functions in many different situations with many types of problems. The demands of their careers and the speed with which technical knowledge becomes obsolete require that their efforts to remain informed should be sustained throughout their professional lives.

Social work has traditionally been concerned with ways to understand and help people in trouble and to assist them to function more effectively in their social environments. The major objectives of social case workers and group workers who provide direct services to clients are to help them to develop alternative ways to participate in and cope with society, to modify their attitudes and behavior in order to prevent future occurrences of problematic situations, and to help them through personal crises. In their efforts to serve society, they should be supported with knowledge and information.

The wide range of services provided by public as well as private social agencies makes it difficult to arrive at an accurate estimate of the number of people served and influenced by social workers. The recipients of the various forms of public assistance shown in the table below for the month of October, 1972, will give some indication. The assistance payments in this same month totaled $1,657,980,000, including funds from Federal, State, and local sources. The number of public assistance recipients is shown in table 4–9.

Table 4–9 Public Assistance: Number of Recipients,[a] October 1972

Type of assistance	Recipients
Old-age assistance	1,933,000
Aid to blind	79,800
Aid to permanently and totally disabled	1,168,000
Aid to families with dependent children	11,064,000
General assistance	862,000
Total	15,106,800

[a] U.S. National Center for Social Statistics. "Public Assistance Statistics," December 1972. Washington: U.S. Government Printing Office, 1973.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Because the field of social work is very heterogeneous, recruiting personnel from many different disciplines and drawing upon nearly all the social sciences, it is difficult to assess its library and information needs. "The problem of creating improved methods and techniques for searching and retrieving social welfare data is made more difficult because of the nature and complexity of social welfare."*

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*[illegible] "Information Exchange in Social Welfare." Special Libraries 60:4 (April 1969), pp. 193–94.

The content of the resources needed covers the full range of problems faced by man during the course of life from birth to death, for the social worker is called upon to counsel the unwed pregnant teenager as well as her aging grandparent. The subjects mentioned most frequently by social workers queried and interviewed relate to family counseling and child welfare and include:

Marriage counseling
Family therapy
Family planning
Child care
Early childhood development
Parent-child relationship
Sex education
Teenage pregnancy
Maternity homes
Child placement
Foster care
Adoptions
Child abuse
Aging
Consumer affairs and education
Alcoholism
Drug addiction
Preschool education
Day-care centers
Job opportunities and placement

In addition, medical social workers expressed a need for material on medicine, rehabilitation, physical therapy, and occupational therapy. Psychiatric social workers requested material on human behavior, psychiatry, psychology, mental health, and mental retardation. Probation and parole officers must have information on juvenile delinquency, institutional care, penal administration and reform, laws and law enforcement, and court procedures.

Though community social work and social welfare planning is not a new field, it is being forced to take on new dimensions and definitions with the multiple operations of urban renewal now underway. Consequently, the role of the social planner has increased in importance. In addition to material on planning, he is in need of material on program evaluation, community organization, urban renewal, housing, and the establishment of neighborhood service centers. A critical need is for current population studies and demographic studies.

A major function of a social worker is to act as liaison between his client and other social agencies in the community. To secure needed material from agencies, to transmit information and recommendations to agencies, or to refer patients for casework help, material assistance, rehabilitation, employment, or any other community service, the social worker must have a thorough knowledge of the resources available and their potential usefulness for a patient.

The primary context in which social caseworkers practice is the interview where the client and the caseworker interact. Since more than half of all social workers are caseworkers, the frequently mentioned need for good practical information on interviewing techniques and counseling is understandable. The social worker interviews to acquire information and to understand the facts of a situation, and he uses the interview as a context in which he can help clients consider different ways to deal with their problems.

Material on the content as well as the techniques of inservice training for the professional, paraprofessional, and volunteer are urgently needed. Many social workers do not have graduate training but learn social work skills on the job. In addition, there is an increasing number of social work assistants with less than a high school education who are employed in social agencies. The current mushrooming of day-care centers (600 licensed centers in Louisiana alone) staffed by persons without training in early childhood development is a good example. Thus, an additional function of trained social workers is to provide training, supervision, and consultation to workers who do not have graduate education in social work.

The type of material most frequently needed is professional journals, while pamphlets and ephemeral or fugitive materials are also useful. Government publications are a good source of information for professionals as well as their clients. Expressions by social workers as well as library usage indicate that films are very useful and widely used by social workers, especially in inservice training programs.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

Most social workers either subscribe to or have access to a small number of professional journals in their department or agency. These journals probably enable them to keep in touch with major developments and changes in attitudes in their own field, with general trends, and with some research findings.

They also use libraries of other social agencies and those of universities with schools of social work. They frequently call on the libraries of their national professional organizations such as the Family Service Association of America for information. For current information on social welfare legislation such as H.R. 1 (Public Law 92–603) they turn to their Congressmen for copies of the act, reports on the hearings, etc.

STRATEGIES FOR FILLING UNMET NEEDS

Though the sources mentioned might suffice for the day-to-day factual information needed, social workers also need more detailed material on new developments in their fields and indepth reports on the findings of research being conducted. They need knowledgeable, helpful library personnel to assist them in locating the information that is the lifeblood of their profession.

Many public libraries have the materials but are failing to communicate to the social worker the availability of such material. When one considers that real needs may go unexpressed if users consider them unrealistic or not capable of being realized by the existing system, it becomes urgent that the public library assume the responsibility for better informing the public of the services available.

Information tailored more to the specific needs of social workers could be provided by public libraries in the form of notification of relevant literature. This information could be presented in the form of brochures, newsletters, lists of current material, library staff presentations at meetings of social workers, deposits of library materials at social service agencies, library orientation for social workers, in previews of new films, and in other forms.

This brief analysis indicates that social workers need information, especially current information, on a wide variety of subjects and they need the services of skilled library personnel to assist them in finding this information. Because social workers are engaged in providing services vital to our society today, it seems urgent that libraries make a concerted effort to supply their information needs.

Table 4–10 Library and Information Needs of Social Service Personnel

Type of information	Purpose to user	Response speed	Response mode	Priority
Inservice training.	Professional competence.	24 hr	Printed material; films or filmstrips.	3
Planning and evaluation	"	24 hr	"	4
Population and demographic studies.	Factual data	1 hr	Printed material; computer printout.	6
Services and Resources of other social service or related agencies for referral purposes.	To find answer	1 hr	Printed material; online terminal; oral response.	1
Interview techniques.	Professional competence.	24 hr	Printed material; films or filmstrips.	2
Subject material on full range of problems faced during course of life.	Professional competence; self-enrichment.	1 hr to 30 days	Printed material; films or filmstrips; microform or recordings.	5

VIII. Library and Information Services for Women, Homemakers, and Parents

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CHARACTERISTICS OF WOMEN, HOMEMAKERS, AND PARENTS

A. Introduction

Women are so frequently identified in our society with homemaker and parent roles (the latter in the day-to-day child-rearing sense) that the three categories might be treated as one in this paper. This would be unfair to all three groups, however. On the one hand, almost every adult in the society is involved in homemaking at one time or another—even the 22-year-old male graduate student who occasionally fries some hamburgers on the hotplate in his apartment. Similarly, though women may be more commonly involved in child rearing as a career for at least a few years, most fathers retain a significant interest in their role as a parent as well. On the other hand, there are many women who never involve themselves in either homemaking or parenting as a career, or who do so for only brief periods in their lives. Such women may nonetheless have many information needs as women, just as the woman who is a full-time homemaker-parent may also have needs, as a woman, that are outside of her two career roles.

We are thus dealing with three overlapping but also significantly distinguishable groups in the population. It will be difficult to deal with the needs of these three groups in such a short paper, so a brief comment will be made on the kinds of material omitted, as well as on the kinds used. The library literature appears to be devoid of information on the needs of these three groups, as groups. The homemaking and child-development literatures have a little material on information needs, usually garnered in assessing adult education or county extension needs. Only the most highly information-need-related materials are dealt with here. Additional information has been drawn from specialists involved with service to the three groups. The paucity of literature and the difficulty the specialists in the three fields have had in stating needs (some of those interviewed asked this writer to tell them!) indicate that this is an area in which much research is needed.

B. **Statistics**

Women constitute 51 percent of the U.S. population. Given that almost every adult is a homemaker at some time in his or her life, there are 134 million at least part-time homemakers (adults over 18), or 66 percent of the population. Homemaking as occupation is listed by 200,000 men and 35 million women, or about 17 percent of the population. There are 29 million families with their own children under 18. This makes for roughly 58 million parents, or 43 percent of the adult population, who are currently concerned with parenting (all statistics are drawn from reference (*18*). These three groups range across the entire spectrum of most social and demographic variables. Statistics on library service to these groups are discussed later in the section titled Adequacies and Deficiencies of Existing Services.

RATIONALE FOR SERVING WOMEN, HOMEMAKERS AND PARENTS

Women earn low salaries and perform menial jobs, although there is ample evidence that they are as intelligent and widely talented as men. This represents great personal pain and dissatisfaction, as well as a gross underuse of our most valuable national resource: people. Anything that contributes to a better match between people's talents and the available work is surely in the national interest. It can help women and the Nation as a whole, to disseminate information to women that widens their horizons and gives them the self-confidence and self-understanding to grasp opportunities that will lead to the full utilization of their talents. Homemaking information, particularly in its nutrition, safety, and hygiene aspects, is vital to the health of the Nation and the happiness of its families. Much unnecessary destruction and waste of vital human resources could be eliminated with proper understanding of this sort of information by the population. Psychologists emphasize repeatedly the significance of childhood experiences in making the adult. Untold pain and billions of dollars in social service support could be saved if parents understood the needs of children and had skills in family relations.

NEEDS FOR LIBRARY AND INFORMATION SERVICE

A. **Women**

Women's centers represent a grassroots development in recent years to provide women with information and services of various kinds. It is difficult to say how many of these centers exist around the country, but Catalyst (*12*), a New York based organization, maintains a carefully screened network of 70 local resource groups concerned with women's educational and career guidance. Ben McKendall, acting director of Field Relations for Catalyst, estimates that there are "at least 500 to a thousand women's centers of varying kinds around the country."[*] Since these centers have developed out of grassroots needs, and are very new, information on the distribution of types of information requested may be more truly reflective of needs than is ordinarily the case with needs studies based on requests.

The Washington, D.C., Area Women's Center (*1*) kindly provided a sample of the requests made of them by telephone and walk-in (mostly telephone).[**] Table 4-11 contains a summary of the data, with all figures in percentages of total requests.

Table 4–11 Summary of Information Requests at Women's Center

Category		Category includes
Medical	16	Health and abortion, 16.
Legal	11	Legal questions of all sorts, 11.
Psychological	11	Psychological counseling, 7; domestic relations counseling, 4.
Social/economic	16	Housing—crisis, 5; jobs, 4; skills resources (feminist oriented artisans and workers), 3; housing—regular, 2; day care, 2.
General interest and growth	29	Counterculture or alternatives info, 9; entertainment, 7; liberation school (feminist classes), 7; meetings, 3; notices on bulletin board, 2; voting and candidates, 1.
Center itself	14	Inquiries from women and press, 14.
Miscellaneous	3	Miscellaneous, 3.
Total	100	

These needs cover such a broad range that the volunteers at the Center do not try to handle all areas. For most, they refer the caller to one of over ten sub-organizations affiliated with the Center, such as the Women's Legal Defense Fund, or the Feminist Counselling Collective. (How libraries might relate to women's centers and to women's information needs will be considered in a later section.)

A large study of the public's information needs (*19*), just completed in the Baltimore area, separated respondents by sex. Respondents were asked for a recent critical-incident information need. The interviewer did not mention libraries. Results were broken down by subject area of need. The breakdown was generally similar for both sexes, the only important differences being that women wanted more consumer information (11 percent, as compared to 9 percent for men) and housing maintenance information (15 to 12 percent), and men wanted more employment information (8 to 6 percent) and crime and safety information (15 to 11 percent) (p. 1).

Two additional needs of women should be mentioned. Women differ from the other subgroupings usually made of the population in that they are isolated, scattered among families on a one-per-family basis. They often do not know which problems are their own personal problems and which ones are the natural result of their role and status in our culture. "Consciousness raising" groups and certain forms of literature and other media materials are needed to overcome this isolation. Second, there is a lack of role models for women. Everyone needs such models to try out behaviors vicariously in order to choose preferred behaviors for oneself. It is enormously inefficient to try out every possibility oneself. These models are drawn not only from life but also from books and other media. The reader need only reflect on the limited range of (usually very stereotyped) roles assigned to women and the very small number of female main characters in books, plays, and television stories to see how limited women's model options are. If what little material that does exist were brought together and widely disseminated, the range of role models might be functionally expanded for many women.

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[*] Personal communication, with permission to quote.

[**] In order to maintain confidentiality, a center member read out request types from the center log, which were then recorded by the writer. The sample included all requests during two continuous weeks of the first month's operation (October 1972), and all requests during 1 continuous week in each month thereafter, through March 1973. Total requests in sample: 521.

B. **Homemakers**

Gordon (*7*), interviewed 100 young homemakers in a Midwestern city on their information needs. She found that all socioeconomic groups were concerned most about the areas of home management problems, food and nutrition, and child development, while homefurnishing, clothing and textiles, home safety, and family living were of less interest. These seven areas, incidentally, appear to be typical of what home economists feel their field covers. Compare, for example, the contents of texts by Davidson (*5*), Bratton (*3*), and Nickell and Dorsey (*13*).

In 1968, the Cooperative Extension Service of the University of Maryland (*17*) surveyed 2,000 women members of homemaking clubs established by the extension service. On the basis of suggestions by the members as well as by extension personnel, 30 categories of information were developed. The women were asked to put a checkmark by any category that interested them. The most popular 10 and the least popular 5 are listed below, with the number of respondents checking the category in parentheses (topics have been rephrased for brevity).

1. Helping child grow to responsible adult without drugs (329).
2. Understanding design in clothing and home furnishings (284).
3. Easier floor care (281).
4. Kitchen management (274).
5. Maintaining normal weight (264).
6. Upholstered furniture on today's market (264).
7. Window treatment (259).
8. Furniture refinishing (251).
9. Is our food safe? (249).
10. News in major home appliances (226).

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26. Automobile safety on highways (123).
27. Leadership development within an organization (111).
28. Respiratory diseases (105).
29. Meal planning for young homemakers (90).

30. Understanding other cultures (42).

The one significant generalization that occurs to this writer about the two lists, the favored and nonfavored categories, is that greatest interest was shown in areas that are psychologically close to home. Improving one's surroundings at home, keeping one's weight down, improving relations with one's children, all are immediate problems with which the women were dealing daily. The least popular areas were all more distant psychologically. Even the automobile, which the woman uses daily, is probably seen as the husband's territory.

C. Parents

Marland (*11*) notes that "A boy or girl may no longer expect to learn all he or she needs to know, or even a large part of it, from father or mother. Inevitably, then, the schools and other community organizations must respond to this need and help prepare the young people of this Nation for life in many of its personal, social, and professional aspects, including parenthood" (p. 3). In the same issue of **Children Today,** Stanley Kruger notes that current education for parenthood in public schools, particularly for boys, is insufficient (10, p. 6).

On the basis of an examination of exemplary programs in education for parenthood, Kruger suggests a number of content areas as being important in such programs. Here, abstracted from Kruger's paper, are the major areas:

- human reproduction, includ- influences of heredity and environment
- pregnancy and childbirth, prenatal and postnatal care
- infant care, including nutrition, health, safety of children
- child growth and development, including physical, perceptual, and cognitive, and personal and social development
- individual differences in children, and the handicapped child
- creative activities for children
- family structure and functions
- family planning and population growth
- community resources to aid in parenting, including child care arrangements

Exemplary texts aimed at providing education for parenthood are references *8*, *14*, and *15*.

Ms. Sandra Horowitz, parent education specialist for the Montgomery County (Md.) Public Schools (*9*), has developed a number of reading lists on the basis of both what parents want to read about and what she thinks they should read about. She finds that parents want reading materials on:

Family living. How to have good family relations, in terms of both communication and behavior.

Children with problems. Horowitz says parents are generally perceptive enough to detect that something is wrong and to take children to experts for diagnosis, but once they learn the problem (physical, mental, or emotional), then they desperately want additional information about the disability.

Infant learning. There is a great push now for materials to help parents maximize children's intelligence.

Early reading and reading problems.

Preschool years.

Both parents and Ms. Horowitz have been concerned about materials on **Choosing and Using Toys,** which includes safety aspects, and **Outdoor Play**, which has come to be emphasized much more recently.

Ms. Horowitz has pushed a reading list on "**Safety Information for Parents.**" She says that accidents in the home are the leading cause of death among children under five.

Ms. Horowitz finds that the needs of parents with teenage children cover a much broader range, but mainly center around alternative styles of living and learning – styles that are likely to be quite new to the parents. Information on colleges, employment, and drugs is also important to them.

Garner and Sperry (6) found that, when asked, over two-thirds of 500 mothers responding in a study of three predominantly white rural North Carolina counties said they had no desired information or services that they would like related to parenting (p. 24). When they were shown 43 publications relating to parenting, however, and asked which ones they might like to read, the following results were obtained: Among those who expressed desires (the great majority), over two-thirds wanted materials on: (1) Sex education, and (2) personality development; roughly half on: (1) General education, and (2) general development; and about one-third on: (1) Diagnosis, treatment and health care; (2) preventive health care; and (3) religious instruction (p. 26).

D. Discussion

Implicitly, much of the information discussed in the three categories of women's, homemakers', and parents' needs is of a sort we may call "life information." This covers information ranging from life-or-death facts (e.g., how to recognize dangerously spoiled foods) to all sorts of material that enhances one's life in a variety of ways (e.g., how to get training for a job of interest, or how to design an attractive living room).

One could argue at great length that several factors in our society make the provision of life information through formal agencies such as libraries far more necessary nowadays than has been the case in the past. Briefly, the extended family and stable community that obtained a half century ago no longer exist for most citizens. These people can no longer draw on these resources for much of their life information as they once did. Furthermore, there is incomparably much more such information that a person needs to know nowadays than he once did in order to lead a successful life. The increasingly rapid rate of change and the concomitant growth in complexity of our society outdate overnight most life information that a person does manage to acquire. The old, inefficient information-transfer patterns through our culture desperately require supplementing by more formal, self-conscious information transfer agencies—chiefly, the library or its successor.

Focussing on life information, one can collect the needs of all three groups into three broad categories. These three categories will be described in a general way here; somewhat more information is provided in a matrix in table 4–12 at the end of this paper. These three categories are "survival related—crisis," "survival related—general," and "self-enrichment and growth." The specific nature of crisis needs varies from group to group, but the total range is vast and covers virtually every human problem. The information needed to resolve the crisis is usually needed in under 4 hours. Because of the highly personal and emotionally charged nature of the need, it is preferably transferred through the medium of an interested, sympathetic person. Furthermore, because the need in such cases is quite specific to an individual or a situation, the information must be precisely tailored to the need. This is another reason for the personal attention suggested above; group or batch-processing to provide information in such situations is not precise enough. Finally, because of the nature of such needs, some diagnostic, as well as information-providing, capacity, is required in the system. This can only be provided by experts (e.g., physicians, psychologists, lawyers) in the areas. Thus, the library and information service functions must be integrated with the expert diagnosis. As argued later, the library may serve as an initial switching center for information requests, then as an information resource in conjunction with diagnosis and service by experts.

General survival-related information serves a preventive function. Since there is no immediate problem, 1 day to 1 week service may suffice, though service in response to an interest of the moment should always be as fast as possible. Since such needs are not in response to a specific crisis they may be satisfied through less personal channels and be less tailored to individuals.

The above refers to responses to requests; but the primary mode of meeting the preventive function of this type of information may be to disseminate the information on a continuing basis. As the audience is neither captive, nor likely to feel an urgent interest in the information (most noncritical life information lacks the absorbing interest potential that some other types possess), the information so disseminated should be attractively and imaginatively packaged and marketed with all the ingenuity that can be mustered.

Finally, self-enrichment and

growth information – a need likely to be shunted aside because of its noncritical nature – is growing in importance in this modern era where leisure time is increasing and all types of people, from automobile assembly plant workers to college professors, are expecting, even demanding, more fulfilled lives.

Service modes for this type of information may operate along the same pattern as mentioned for the noncritical survival information – service as fast as possible to meet the need while it is felt, but with margins of 1 day to 1 week tolerable, with both personal and nonpersonal mediation of information suitable, with both demand response and continuing dissemination modes of information used, and with attractive packaging.

Priority is difficult to assign to these types. Each is important for a different area or phase of life. Critical survival information is of course the most important type for the individual involved, but the library's role is not primary here. For that reason the following sequence of priority in libraries is assigned these three types of information: (1) Survival related – general, (2) self-enrichment and growth, and (3) survival related – crisis.

E. Service Objectives

The library should provide the following services (and the public should come to view it as providing those services):*

(1) The library is a clearinghouse of information on every sort of community resource relating to life information needs. Information on community resources is held in significant detail; i.e., not only is name and address held, but also detailed lists of services provided, qualifications to receive service, etc. This information is fequently and carefully updated, and thoroughly indexed.

(2) The library can answer a great many life-information questions itself, without requiring referral to other agencies. For example, Ms. Catherine Rhoads, of the Maryland County Extension Service (*17*) has said that most of the questions she receives over the telephone can be answered out of a few dozen booklets and pamphlets. She would prefer to see her role as primarily that of one who designs and implements educational courses and programs in home economics, rather than answering these one-shot questions, which take time from her other work. She would like to see people asking these questions of the library first, and being referred to her only for specialized problems. Comparable cooperative patterns could be developed with other agencies dealing with life information. If the library were seen as the **first place to call** for any information need, the resultant immediate answer or, if need be, proper switching to the appropriate agency, should

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*All the services are considered part of a unified view of future public library service, hence there is no order of priorities for them. They are listed, instead, in order of expected ease of implementation.

avoid much waste for both agency and citizen. The library, with its expertise in the organization and accessing of information, is probably the public agency best able to provide effective switching.

(3). The library has available a wide range of information analysis products providing life information—some developed by the library and some by appropriate outside agencies (e.g., the U.S. Department of Agriculture). These products should be actively and vigorously disseminated, even through forms of selective dissemination of information, to interested individuals and groups. They should include many nonprint products—materials that can be viewed or listened to in the library or through cable television when developed.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

Statistics on library use are relevant here. Estimates in the literature of the percentage of library users who are women range between half to two-thirds of the total clientele (Berelson (*2*), p. 30; Bundy (*4*), p. 953). Housewives hold their own as well, constituting "less than one-tenth to as much as one-third" (2, p. 33). A more recent study found that 16.4 percent of users 12 years of age and over were housewives (4, p. 953). These figures correspond well with these groups' proportions in the total population (see the first section of this paper). But note: Libraries are actively used by only 10 percent of the adult population (2, p. 10). So with percentages of the library clientele and of the population as a whole roughly equal for these groups, this means that libraries are still only reaching a tiny minority (approximately 10 percent) of all women and housewives. No statistics have been found on the proportion of parents in libraries' clientele.

Furthermore, even though high proportions of users are women and housewives, it cannot be assumed that their needs as women or as housewives are being well-satisfied. Housewives, for example, may be getting quite adequate service from the library in the provision of fiction for recreational reading, but be poorly served with regard to information to help them be good homemakers.

Such life information does not appear to be dealt with well by most public libraries now. The Baltimore information needs study mentioned earlier (*19*) asked the respondents what had turned out to be the best information resource in solving the critical incident need they had identified. Fewer than 2 percent mentioned the library (p. 21).

STRATEGIES FOR FILLING UNMET NEEDS

The following are just two among many possible strategies for facilitating service to women, homemakers and parents.

(1) Hotlines and other crisis centers satisfy many life information needs, but with strong emphasis on emotional support. Though librarians tend to be unsuited, by training and disposition, for the latter aspect, the two types of agencies have a common interest in information provision. The public library should therefore house, but not administer, hotlines, women's centers, and other crisis centers. This will be beneficial in several ways. For the hotlines, it solves their greatest need – for free office and telephone lines. They may also benefit from the librarians' expertise in information organization. The close physical proximity of the two agencies will lead to mutual referral and resource use. Most importantly for the library, this relationship will lead, more rapidly than would otherwise be the case, to the identification in the public's mind of the library as a community life information center. This close working relationship will also enhance the development of staff who are skilled in finding, organizing, and disseminating life information.

(2) Library schools should be oriented to greater focus on community life information service. Reference courses should include community information sources and should cover the problems of gathering this ephemeral, rapidly changing sort of information. Cataloging courses should include consideration of the problems of organizing this heterogenous and atypical sort of information. Working librarians should be reached through institutes and continuing-education programs.

Table 4–12 Information Needs of Women, Homemakers and Parents

Type of information	Purpose to user	Transmittal speed	Delivery mode	Priority
For Women: * Survival related—Crisis. Includes medical, legal, psychological, financial information that is needed to solve immediate, pressing problems; e.g., abortion information.	Resolve crises situation.	Usually under 4 hr.	Through interested person, to help with emotional overtones. Requires some diagnostic capacity of system or system component (e.g., expert consultant) so as to make service specific to individual.	3 **

Table 4–12 Information Needs of Women, Homemakers and Parents—Cont.

Type of information	Purpose to user	Transmittal speed	Delivery mode	Priority
Survival related—General. Same subjects as above but for general knowledge, not necessarily immediately applied, e.g., abortion/contraception information for nonpregnant teenager.	Prevent crises or be better prepared to deal with them.	Goal still fast service since perception of need may fade fast. But 1 day to maximum of 1 week OK in most cases.	May be through less personal channels than above and less specialized to individual. To meet preventive function should be disseminated on continuing basis, not just response to demand. Attractively and imaginatively packaged to attract interest.	1
Self-enrichment and growth. Alternative life-styles, new opportunities. Wide range, information heterogeneous.	Expand life experience, increase satisfaction.	(Same as Survival related—General.)	Information channels diverse and carefully fitted to heterogeneity of information itself. Should also be disseminated on continuing basis, not just response to demand. Attractively and imaginatively packaged to attract interest.	2
For homemakers: Survival related—Crisis. Includes medical, legal, safety information related to homemaking function. Survival related—General. Most homemaking functions draw on this type of information. Primary thrust here. Enrichment of understanding and knowledge of homemaking.	(For other aspects of information needs, see corresponding categories in "women," above.)			
For parents: Survival related—Crisis. Sick children, family fights, etc. Survival related—General. General parenting skills and special needs for handicapped and other problem cases. Enrichment of understanding of children and parent role. Includes improving family relationships.	(For other aspects of information needs, see corresponding categories in "women," above.)			

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* Men need information in these areas too, but there is much content specific to women due to their physiology and social and economic status.

** Primary role in serving such needs taken by nonlibrary experts (see text for discussion), hence low priority for libraries.

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IX. Library and Information Needs of Young Children

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INTRODUCTION

We in the United States have been inclined to think that ours is a child-centered society, but the 1970 White House Conference on Children produced damning evidence to the contrary. The conference report charges us with a "vast neglect of children," an "institutional provincialism that has encouraged fragmentation and separation among those who deal with children," and failure to provide adequate health care, an effective education, services for the handicapped, protection for children's rights, and information and assistance for parents. **"Profiles of Children,"** a chartbook prepared for the conference, shows that 16 percent of all children live in families with incomes below the poverty level, but no more than half the children in need of assistance are receiving help from child welfare agencies.

CHARACTERISTICS OF YOUNG CHILDREN

There are roughly 53 million children in the United States today; 60 percent live in metropolitan areas; 17 million are under 5 years of age; and 10 percent of all school-age children suffer from moderate to severe emotional problems, but only 5 percent of children in need of psychiatric care are receiving it. Accidents are the leading cause of death and injury to children after age 1; more than a third of all children are injured severely enough each year to require medical care or to restrict their usual activity. Infant mortality rates are higher in the United States than in 12 other major developed nations. Between 100,000 and 200,000 babies born each year are mentally retarded; for 75 percent, inadequate prenatal and perinatal health care, nutrition, child rearing, and social and environmental opportunities are suspected as causes of retardation. The diets of substantial numbers of preschoolers are deficient in important nutrients. A total of 1 child in 12 suffers from a speech defect; 1 in 9 has defective vision; 1 in 4 has never seen a dentist. One child in 7 has a reading problem. If the present trend continues, 1 child in 9 will appear in juvenile court before age 18.

There is significant agreement that children's experiences in the first 3 or 4 years of life are vitally important to subsequent development. Existing studies indicate that a child deprived of early care is almost always physically, intellectually, and socially retarded. Cultural deprivation is most common among low-income, low-social-status families; but among affluent families, many children whose physical needs are carefully tended suffer from the absence of emotional warmth and mental stimulation. All parents, including 4 million single parents, growing numbers of very young parents, and more than 11 million working mothers, need greater support in their parental roles. The Education Commission of the States has recommended publicly supported early education programs whose major thrust should be "strengthening the role of the family as the first and most fundamental influence on child development"; "the early detection of serious health and education handicaps"; and "the provision of remedial health and education programs for all preschool children who need special services." Information and educational resources are essential components of such programs.

The Commission points out that no one can measure the benefits of early education programs in terms of dollars and cents; but, over a long period of time, cost benefits can be expected in terms of reduced expenditures for special and remedial education, delinquency, and crime, and an increase in the general productivity of society. It costs about twice as much to retain a child in a remedial classroom or a classroom for the mentally retarded as to keep a child in a regular classroom. It costs per year, on a national average, $4,070 to detain a juvenile, $1,898 to keep an individual in a State penitentiary, and about $1,000 for an individual on welfare. It seems hardly necessary to add that the health and well-being of the Nation's children, their physical stamina, emotional stability, and intellectual achievement should be overriding concerns.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Because children are almost totally dependent on adults for the satisfaction of their needs, and because most adults assume that it is their prerogative to define what those needs are, the library and information needs of children, especially young children, fall into two categories. Parents and other adults concerned with children have a vast need for information on child development, educational theory and practice, nutrition, and the health, environmental, social, intellectual, cultural, and media needs of children. Children need materials that will stimulate physical, emotional, and mental growth.

Learning is a continuous process beginning from conception. A child reaches out to explore his environment with all of his senses, with his entire physical being. It is impossible to separate his intellectual and emotional development from his physical development. Lawrence K. Frank (8, pp. v and vi) tells us: "Play, as we are beginning to understand, is the way the child learns what no one can teach him. It is the way he explores and orients himself to the actual world of space and time, of things, animals, structures and people. Through play he learns to live in our symbolic world of meanings and values, of progressive striving for deferred goals, at the same time exploring and experimenting and learning in his own individualized way. Through play the child practices and rehearses endlessly the complicated and subtle patterns of human living and communication which he must master if he is to become a participating adult in our social life."

Play materials are part of the information needs of children. Sand and clay and other manipulative materials – puzzles, toys, games – are "media" through which the young child derives certain kinds of information in the same sense in which books and films are media through which older children and adults derive other kinds of information. As the child discovers, manipulates, experiences, and tests his environment through play, he acquires self-confidence and a sense of mastery over himself and his surroundings; he learns how to reason to solve problems, how to think. The chief business of childhood is processing information: acquiring, organizing, classifying, conceptualizing, and communicating experiences; in that sense, the library and information needs of children are limitless. They include all forms of media, at a great diversity of levels, on all topics, print and nonprint, traditional and unconventional: books, pictures, films, filmstrips, slides, records, tape cassettes, television, videotape, toys, dolls, puzzles, games, animals, plants, puppets, clay, paper, crayons, paste, paint, cardboard cartons, realia of all descriptions, storytelling, drama, and conversations. There is also a need for appropriate environments in which to be actively involved with the materials, and for responsive adults to provide guidance in the use of the materials and to mediate the children's experiences. Manipulative materials are beginning to be considered valid library resources for disadvantaged, retarded, and learning-disabled children. It is essential to recognize that all children benefit from access to such materials.

Library and information service objectives for young children must include the following:

(1) rethinking and restructuring of traditional patterns of library and information services to children;

(2) broadening of selection policies to permit acquisition of a greater variety of media and materials;

(3) the identification, evaluation, and classification of the various forms of materials that will stimulate physical and emo-

tional growth and cognitive development in children;

(4) provision for access to such materials for children and for adults concerned with children;

(5) complete integration of materials and services for handicapped, exceptional children, and gifted children into existing library and information programs;

(6) provision for appropriate environments in which young children can use materials that will stimulate development, under the guidance of knowledgeable, responsive adults—environments in which parents and other concerned adults can learn to use such materials with children. "An optimum physical environment would allow the child to successfully manipulate his surroundings at any age and would also provide a variety of sensual experiences" (25, p. 34). The Visitor Center at Boston's Children's Museum might serve as a prototype;

(7) inservice training for staff in human development, child psychology, learning and play theory, and other subjects related to early childhood education;

(8) programing to stimulate physical, emotional, and cognitive development and language development as well as to provide cultural and esthetic experiences for children;

(9) provision for collections of materials and information for adults relating to children's health needs, nutrition, education, child development, media, environmental, social, intellectual, emotional and cultural needs of children, services and materials for handicapped, exceptional, and gifted children, information on legislation relating to children, children's rights, etc.; and

(10) workshops and classes for parents and other concerned adults in "how to" information and techniques for day-to-day child rearing, human development, and related topics.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

Traditionally, library and information services to children have been organized around two goals: to support the curriculum of the school (school libraries) and to motivate children to read and experience literature (public libraries). This orientation and emphasis still prevails, although, in practice, both institutions have provided a far wider range of materials to suit children's interests and abilities than the statement above would indicate. The 1969 **"Standards for School Media Programs"** states that today's school media program is aimed at creating a "learning environment" in which the student can "develop a spirit of inquiry, self-motivation, self-discipline, and self-evaluation," learn to "master knowledge and to develop skills" and learn to "communicate his ideas" (*1*, p. 1). "The focus of the media program is on facilitating and improving the learning process" (*1*, p. 2). The media collection "meets the requirements of the various curricular areas and provides for the diverse learning skills of individuals representing all levels and types of ability. Materials are also included that inspire and meet the independent interests and research needs of students" (*1*, p. 20).

The "**Standards for School Media Programs**" set forth far-reaching and exciting goals for school library development. Federal support under the Elementary and Secondary Education Act, demonstrations sponsored by the Knapp School Libraries Project, and the activities of the American Association of School Librarians have pushed school libraries a considerable distance toward the realization of those goals, but a great deal remains to be achieved. In Massachusetts, for example, the number of public school media centers and the number of professional media staff in public schools almost doubled in the years from 1966 to 1970. But only one-third of the existing media centers are staffed by at least one full-time professional librarian, and more than 900 schools still have no media centers. More than half of the elementary schools in the United States have no school library program. Only 8 of the 50 States mandate kindergarten programs. Almost no school libraries serve children below kindergarten age. In Massachusetts, 13 out of 2,442 public schools offer prekindergarten programs; 14 private schools offer such programs. Despite the emphasis on media in "**Standards for School Media Programs,**" media collections in many schools throughout the United States are fragmented. Nonprint materials are often in short supply or are housed and administered separately from book collections. The book collections are still likely to be narrowly curriculum-oriented, conservative, and "safe" in character, since school libraries are particularly vulnerable to censorship pressures.

Public libraries in the United States were the first institutions in the world to make broad collections of books freely accessible to young people in an atmosphere that encouraged independent inquiry and choice. Public library service to children pioneered the concept of attention to the individual needs of children, the development of imaginative techniques to introduce books to children, and the building of collections of literature for children. From the formal beginnings of children's services in the 1890's, children's librarians have paid meticulous attention to the evaluation and selection of children's books. The criteria for selection have been largely literary criteria, for the concern is to make available to all children the "best" that has been written, the great books that communicate enduring truths about the human condition, books that provide satisfying emotional, cognitive, and imaginative experiences, set forth with a richness of words. After such books were found, the problem became how to make children aware that the books existed and how to create in children the desire to read them, which led to the development of the story hour, book talk, puppet show, reading and drama clubs, school visit, summer program, and today's creative dramatics, creative crafts, music, dance, film, multimedia, and preschool programs. Most of these programs attempt to interpret literature for children, to stimulate them to want to read, and to give them opportunities to participate actively in a variety of esthetic and cultural experiences. The success of this very specific and intensely personal approach to library service for children is well documented in library literature. Children account for 50 to 70 percent of the circulation of most public libraries.

What we do not know is what proportion of the total child population is not served by the public library and why. Surveys in San Francisco and Chicago indicate that it may be as high as 85 percent in the inner city and 60 percent as an average (17; 19, p. 25). Despite a long crusade by librarians to be admitted as partners in the educational enterprise, for the first half-century of public library service to children, many schools and teachers regarded library programs and resources as peripheral to education. The shift in the forties and fifties to new teaching methods with greater emphasis on individualized instruction and independent "research" caught everyone unaware. In many instances, publishers hadn't begun to produce materials for children on topics that teachers and children were requesting. Poorly supported and nonexistent elementary school libraries couldn't begin to meet the demands. Public libraries, also hampered by the lack of materials and money, tried to cope but were slow and somewhat reluctant to recognize school-generated demands as a legitimate part of the total information needs of children.

This reluctance persists and shows itself in painstaking efforts to delineate, narrowly, specific areas of responsibility of school and public libraries for service to children. Both institutions have tended to define their programs of service in terms of the perceived function of the institution, for example, "to support the school curriculum" or "to acquaint children with the literature of the world" rather than in terms of children's actual needs, which we are only beginning to discover and define. A cooperative study in progress now, The Philadelphia Project (2), is a giant step in that direction.* Out of the Project may come information that will help us to develop new patterns of library service to children. One of the absurdities of our time is the fear on the part of taxpayers, finance committees, and administrators that school and public libraries wastefully "duplicate" resources. If we were truly serious in our commitment to education, we would adopt the marketing strategy of the McDonald's hamburger chain and multiply (rather than trying to conserve) access points and service outlets.

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*Additional information on this study can be obtained by writing to John Q. Benford, Director, Philadelphia Student Library Resources Requirements Project, Park Towne Place, Room S-14, 2201 Benjamin Franklin Parkway, Philadelphia, Pa. 19130.

The traditional selection policies of public libraries, which emphasize the selection of "quality" printed materials of "enduring value," have resulted in the exclusion of whole classes of material that may provide a valid and valuable experience for children: comics, popular series books, mass-market publications, toy books, and pop-up, cloth, and scratch-and-sniff books. Paperbacks, even though most are reprints of standard, approved titles, are still not widely accepted and used.

Reference collections for children are weak, and periodical collections are scanty. Films, filmstrips, records, tape cassettes, and other audiovisual materials are sparse. Coloring books, tracing books, follow-the-dot, and cut-and-paste books are not even thought of as possible "library material," although this type of activity or workbook is widely purchased by middle class parents for their children and perhaps contributes to the development of motor and cognitive skills. Games, puzzles, and toys, even "educational" games, are still considered frivolous in most quarters. Materials for children with special needs, for example, retarded, learning-disabled, and visually handicapped children, have not been actively sought and acquired by most public libraries. Special services for handicapped children are not an integral part of most library programs, although a number of outstanding exceptions can be noted.

The dichotomy and the necessity to preserve a balance between "educational" and "recreational" materials is still discussed. The concept of play as a mode of learning is unrecognized. Learning theory, child psychology and the health needs of children are not considered the responsibility or concern of the librarian who works with children. Children's rooms in public libraries may have a parents' collection of materials relating to children's literature and reading, but seldom are other materials relating to education and child development housed in the children's room.

Neither school nor public libraries are providing adequate resources and service for preschoolers and their parents. Preschool story hours, begun 50 years ago in public libraries, are currently the most popular and widespread of public library programs. A study (28, pp. 462–465) has shown that exemplary preschool programs successfully introduce children to books and to the library, improve children's social and verbal communications skills, and increase children's interest in books and in learning to read. But only a fraction of the total number of preschool-aged children have access to library preschool programs. Larger numbers of children have participated in preschool programs in those communities in which the public library has trained volunteers or child care workers to conduct the programs. Some public libraries arrange programs for mothers of preschoolers that include discussions of child development and related topics, but these programs reach only a limited number of mothers; there seems to be no attempt to program for male parents.

Economic and administrative factors loom larger than philosophical considerations as obstacles to expanded public library programs and services for children. The physical design and furnishings of most children's rooms do not lend themselves easily to the storage, circulation, and use of nonprint materials. Financial support of public library programs, as a whole, and children's programs, in particular, is low. Budgets for children's materials have never been commensurate with the proportion of children's use of public libraries. (A recent Connecticut survey [4] showed that the range in that State was 10 to 14 percent of the total budget.*) Children's service specialists are given low priority in State library agencies; there are only 15 to 20 children's consultants on State agency staffs in the country. The creation of library systems has helped to stimulate the development of children's services to some degree, but systems with children's consultants have not yet emerged in many States. Most small public libraries lack children's librarians, children's programs, and adequate collections of children's books, let alone other materials. Fewer than half of the public libraries in Massachusetts have librarians whose specific assignment is to work with children. This is not to say that children are not served at all in those communities; but when only one person is responsible for all of the library services provided, it is difficult to prepare programs for children and become familiar enough with children's materials to adequately interpret them to children and to adults concerned with children.

Other factors that have limited the development of certain kinds of library programs and services for children include a lack of knowledge about appropriate materials and effective ways in which to use them, the absence of bibliographical tools that would provide convenient access to the materials, and the nonexistence of some materials: it is difficult but possible to locate materials to use with learning-disabled children, but if the thrust toward early childhood education should create a generation of infant readers, what would we give them to read? Possibly the one area in which the concerns of both school and public librarians coincide completely is the recognition of the need for print and nonprint materials examination centers. Such centers could provide valuable services not only to librarians but to all adults involved in child care and related professions.

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*[illegible] information on this survey can be obtained by contacting: Faith Hektoen, Consultant, Connecticut State Library, 231 Capitol Avenue, Hartford, Conn. 06115.

The insistence of children's librarians, in both school and public libraries, on the application of literary standards to children's books has undoubtedly helped to stimulate the production and publication in the United States of a literature for children that is remarkable for its quality as well as its quantity. More than 80 percent of the sales of children's books are made to school and public libraries. Criteria for evaluating nonprint materials are still being established. A rethinking of all of the criteria by which we evaluate materials for children is in order in terms of both the known and the yet-to-be-perceived needs of children as well as in terms of the objective literary, educational, psychological, sociological, or other values inherent in the material. Helen Lyman's study, **"Library Materials in Service to the Adult New Reader"** (*18*), with its detailed criteria for the analysis of materials, might provide a useful model for developing new criteria for selecting children's materials. Selection is a crucial issue. Still unresolved are questions about the limits of intellectual freedom for children and children's rights to access to materials.

There are public libraries, large and small, that are developing services in all of these areas. Notable are the Erie, Pennsylvania, Public Library's Preschool Multimedia Center; the Early Childhood Specialist Program of the School of Library Science at North Carolina Central University; and the San Francisco Early Childhood Project. All of these programs are providing toys and audiovisual materials for children, as well as traditional resources. The Erie Center features multimedia programing for children and materials on child development for parents. The North Carolina and San Francisco projects are stressing workshops for parents in child development and related topics, such as how to use materials with children. Hawaii has opened a library to meet the needs of exceptional children, their teachers, and parents. The King County Library in Seattle, Wash. has opened a branch that serves the mentally retarded. The Public Library of Cincinnati and Hamilton County, Ohio, has actively served exceptional children with programs and materials for several years. One State children's consultant, Faith Hektoen in Connecticut, has initiated a pilot project to train children's librarians in child development, learning theory, and related subjects. The library of Springfield, Mass., has a resource center that provides materials and services to day care, Head Start, and nursery school personnel. Medford, Mass., has an instructional materials center that serves parents of handicapped children. Children's Book Examination Centers have been set up in Wisconsin and Illinois. These are a sampling of the programs that have been started. There are others but not enough to begin to meet the needs. Almost without exception, such innovations have been made possible and supported by Federal funding. Without increased support for library resources and services, children will be cheated out of access to information and activities vital to their development.

STRATEGIES FOR FILLING UNMET NEEDS

The Education Commission of the States suggests a number of alternative approaches to early childhood education. One of these is the development of child care centers that would provide parent education programs. Parents would be able to see films on child development at such centers, borrow books for themselves, and borrow games and toys for their children, together with information on ways in which the games and toys could be used to help their children grow.

Other alternatives suggested include "children's education centers" for parents of children under age 4 to provide special assistance for parents of children with special needs, and "child in the home programs," which combine training in child development for parents with home visits by teachers' aides who demonstrate ways in which parents can stimulate their children's learning.

A pilot program in early education launched this year in Brookline, Mass., incorporates several of these proposals: children enrolled in the program will have their mental, physical, and emotional development monitored from gestation to age 6. Sponsored by the Brookline School System, Harvard's Graduate School of Education, and Boston's Children's Hospital Medical Center, and funded by the Robert Wood Johnson Foundation and the Carnegie Corp. of New York, the program provides diagnostic services, parent seminars, home visits, and access to a resource center that contains toys, books, pamphlets, and videotapes.

The need for parent information and resources for early education is evidenced by the variety of child-service agencies and institutions that are developing such programs. For example, in Boston, the Children's Medical Center has a growing publications program directed toward parents and concerned with such subjects as car safety, accident prevention, and play ideas; the Children's Museum has created a resource center in which adults can explore the educational properties of three-dimensional materials; for children, the museum regularly creates exhibits that are involving, play-learning environments. One of these was a completely equipped hospital room in which children could "act out" the hospital experience. Another is "Grandmother's Attic," cluttered with Victorian dollhouses, trunks full of costumes to unpack and try on, a Victrola to crank, a stereopticon to peer into, old photographs to look at, and old toys to play with. Most contemporary homes and apartments are too cramped to contain the collections of potential play materials that used to accumulate in attics; there is real value in including such materials in collections of library resources for children. The Museum of Science has developed innovative programs for preschool-age children, and the Museum of Fine Arts aims a substantial segment of its programing at families. The State of Massachusetts has created an Office for Children, to serve as an advocate for children, set standards for day care, develop local children's councils, draft legislation, create local supportive services for children in danger of institutionalization, and coordinate State services to children.

These programs, however, reach only a fraction of the children and parents who need to be served. Facilities like the Children's Museum and the Children's Medical Center are unique in the United States, if not in the world. Only our largest cities have art museums and science museums. Federally funded Head Start programs and privately financed day-care centers have multiplied rapidly. Head Start programs have provided services to approximately 3 million disadvantaged children since 1965; but that still leaves three-fifths of the preschool child population without educational opportunities. It has been estimated that it would require 800,000 additional teachers and aides if every 3-, 4-, and 5-year-old were to be placed in some form of preschool program. At the same time, it is conceded that there is no evidence that every young child needs or would benefit from a formal group experience in a nursery school or Head Start program. But there is considerable evidence that all children need an intellectually stimulating environment during their early years. Can libraries provide or help parents to provide such an environment?

Strategies to pursue in filling the unmet needs of young children for library and information services might include:

(1) Creating coalitions of child-oriented adults at local levels to develop programs that meet local needs. Such programs might be based on existing school or public library or other agency programs or might involve the development of new organizational forms such as the "neighborhood resource and service center" described in the Report of Forum 2 and the "neighborhood human service center" described in the Report of Forum 10 of the White House Conference, 1970;

(2) involving children themselves in decisionmaking about programs and services and involving paraprofessionals and nonprofessionals including teenagers and senior citizens in the operation of the programs;

(3) preservice training of librarians in early childhood education and related subjects;

(4) making readily available to child care professionals from all disciplines the results of research relating to child development; and

(5) research to explore, define, and evaluate the effectiveness of learning resources or library and information centers for young children.

Table 4-13 Major Areas of Information Needs of Young Children

Type of information	Purpose to user	Response speed	Response mode	Priority
General: Self. Environment. Other people. Life needs: Health. Nutrition. Safety. Emotional security. Intellectual stimulation.	Physical, emotional, social, cognitive: growth and development.	Available when individual needs it, is ready, able to use it. Available at appropriate levels of development (different for each individual).	Variety of forms of media according to needs: print, nonprint, visual, audio, manipulative—books, pictures, films, filmstrips, slides, records, tape cassettes, television, videotape, toys, dolls, games, puzzles, animals, plants, puppets, clay, paper, crayons, paste, paint, cardboard cartons, realia, etc. Emphasis on manipulative materials. Storytelling, drama, conversation, creative play. In appropriate environments: Physical space, opportunity for activity, noise. By persons who can mediate (provide guidance in selection, use of materials) through librarians or other adults (parents, teachers, child-care professionals, paraprofessionals). In resource centers, homes, neighborhoods, schools.	Access to appropriate materials and services. Interaction with informed adults who can provide guidance in the selection and use of materials, help to interpret materials and experiences. Access to an environment that lends itself to exploration and use of materials.

Table 4-14 Major Areas of Information Needs of Adults, Related to Young Children

Type of information	Purpose to user	Response speed	Response mode	Priority
Materials on child development and related topics. Learning theory; child psychology; health needs of children; materials to use with children: How and when to use them, for what purpose to use them.	To facilitate the growth and development of children.	Available when needed.	Variety of forms of media; information and referral; talks; workshops; programs. In libraries, resource centers, homes, neighborhood centers, schools, agencies.	Informing adults about children's needs. Training for child service professionals. Access to appropriate materials and services. Coordinating community resources.

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X. Library and Information Services for Young Adults and Students

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INTRODUCTION

In many instances, service to young adults and students varies considerably from what they really want and need. Many libraries state that they serve this age group without taking the time to investigate and determine that the group called "young adult" has radically changed in the past few years. Young adults and students are making demands for resources that libraries are either not willing to cope with or unable to recognize as valid, because these demands are at variance with the traditional criteria established for service to young adults and students. Not only has the clientele itself changed, but educational patterns, modes of instruction, and the influence of mass media have produced a more sophisticated clientele that is not satisfied by traditional approaches.

During 1972 and 1973, as a result of Allie Beth Martin's report to the American Library Association, titled "A Strategy for Public Library Change," many task forces were appointed to consider the different aspects of library service presented in her study. Three of the task forces appointed by the Public Library Association are proposing goals and guidelines for children's services, young adult services, and adult services. These papers are in rough-draft form and were refined at the American Library Association Conference in July 1973. Though still only working papers, these reports are most important and are of interest to anyone concerned with public library service in the 1970's.

This paper makes four major statements:

(1) Young adults are entitled to open and equal access to all materials and services, regardless of cost, location, or format; and to a confidential client-librarian relationship, a nonjudgmental attitude, respect, and participation in the decisionmaking process of the library.

(2) The special needs and interests as well as the uniqueness of

young adults must be recognized in the selection of library services and materials.

(3) Young adults should have access to the maximum depth and breadth of materials so that they can make individual decisions with a full understanding of options and alternatives.

(4) Libraries must develop knowledge of, and liaison with, other agencies providing informational services. Young adults should find that the library identifies gaps in community services for them and advocates the provision of improvement of those services through agencies, governmental offices, etc.

The young adult is an ever-changing human being, a person undergoing perhaps the greatest physical, emotional, and psychological changes of his lifetime. The expectations put on him by his peers as well as by adults are enormous and cause a great amount of pressure on him. This person is expected to grow, to increase his perceptions, to develop a lifestyle, to relate to the opposite sex, and to determine his goals. These factors must be kept in mind in all considerations of library and information service to young adults and students.

CHARACTERISTICS OF YOUNG ADULTS AND STUDENTS

In the preliminary working papers of the American Library Association PLA/YASD Task Force on Public Library Goals, the introduction states, "Adolescence can be seen as that period in a person's development when he no longer sees himself as a child, but other people do not see him as an adult." The informational and recreational needs of elementary-level students are usually well met. Most public libraries have active children's programs and they work with the children well. Unfortunately, this is not the case with young adults and students. Because they are an amorphous group, problem-creating and difficult to serve, they require a high degree of service at all levels of sophistication. It is very difficult to assign a specific age range to young adults, and I prefer not to. I would rather discuss young adults and students as individuals who have not yet reached maturity, who have progressed – for the most part – beyond juvenile literature and concerns, and who – while they have a great deal of ability and expertise – still do not have the perspective one expects of mature individuals.

Approximately 40 million citizens of the United States are between the ages of 10 and 20. This constitutes about 20 percent of the total population and the majority of persons now using the library. Several studies have indicated that young adults and students make more use of reference and library facilities than any other age group. The material given to librarians as resource information clearly states this, and yet it is obvious that young adults and students do not receive their fair share of attention from the libraries that serve them. In many cases, they are made to feel like second-class citizens and are subject to restrictions imposed upon them solely because of their age and status.*

The educational and reading levels of young adults vary from individual to individual and the range of material necessary is vast. A student interested in a specific subject may have a great deal of competence in that area but lack competence in others. His range of interests is likely to be broad. He can jump from complex subjects to simple ones, to read or deal with complex ideas and at the same time, react to simple or simplistic material with empathy and enthusiasm.

The current crop of young adults and students are products of "mass media." This is a generation who grew up with television and instant access to sound and visual stimulation. Their world ranges from Sesame Street to Saigon, from laughter to extreme violence, and from instant cereal to instant death. This background tells in their demands on the institutions which serve them. Most young adults and students need material now, and do not see why they should have to wait.

RATIONALE FOR SERVING YOUNG ADULTS AND STUDENTS

This group of the population, those from 10 to 20 years old, are the future. If they are well served, we will be accomplishing three major goals: we will be developing future citizens by helping them to reach their full potential and become full participants in our society; we will be developing the most important and vital national resource, our future leaders, workers, parents, and members of a productive society; and we will be assisting people to achieve a level of individual satisfaction, leading them to become well-rounded and free adults, who can feel sure of their own individual value and worth.

No other institution functions in quite the same way as the public library, serving as an information center, a resource agency, a collector, and a disseminator of information. Ideally, public libraries provide easy access to materials, and are nonrestrictive in their lending practices. This attitude can be shown in the Library Bill of Rights and in various freedom-of-access statements made by the American Library Association that have been formally adopted by many public library boards and commissions.

Schools, both formal and informal are set up to serve those needs outlined by their curricula and do not serve the whole person, even though they may try.

Mass media are an important type of encounter but are really quite remote from the individual. Even though many people get a great deal of their day-to-day information from the media, the media are remote and depersonalized. There is no instant input from the individual viewing or hearing, although this may change in the near future with the advent of cable TV and advanced electronic forms of communication. I await with anticipation their impact on library service in general and young adult and student services in particular.

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*Bourne, Charles P., et al. "Preliminary Investigation of Present and Potential Library and Information Service Needs." Final report. Institute of Library Research, University of California at Berkeley, February 1973, p. 46.

Clubs, church groups, teen centers, etc., serve as gathering places and information is certainly disseminated by them to many young adults and students. Cooperation by and with libraries is essential and very valuable, since the advantages of cooperation enable both to reach a larger potential audience and to expand their services and resources. Clubs can use library resources for their programs, while libraries can use club resources for library-type programs and for increasing the number of service outlets.

Switchboards and hot lines are a community resource that libraries serving young adults and students must certainly support if the library purports to serve the real needs of this segment. Switchboards and hot lines give highly personalized, intense kinds of service and access to informational channels that are of benefit to libraries. There are many mutual gains, and certainly a shared audience. Switchboards and hot lines can assist libraries in gathering ephemeral information of interest to young adults and students, and libraries can be an informational resource for the switchboard.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

The library and informational needs of this specific group can be categorized; the categories below are not exhaustive, nor are they exclusive. Audiovisual needs encompass more than just collections and access to records, cassettes, films, etc. Audiovisual needs percolate through all of the needs listed above and form a part of the information available, often in more palatable form than hard copy. The value of the recreational collections of recordings and entertainment films should not be downgraded, but the importance of audiovisual collections to supplement other collections must be highly emphasized in any service dealing with young adults and students.

School and curriculum needs are the most obvious and are often the easiest to identify, because there are special subjects and specific titles or areas of interest assigned. It is the range of levels and information needed within this category that requires skill in selection. Young adults and students have varying degrees of ability to read, understand, and perceive different types of materials.

Recreational needs of students and young adults are often pushed into the background because these are difficult requests to identify, are hard to locate, and require considerable knowledge of the client, his reading levels, his perception levels, and his degree of interest. By recreational needs are meant those materials that an individual uses during his leisure time, when he is free to do whatever he wants to do, hasn't the pressures of assignments, and can just BE.

Personal development needs are another facet of young adult and student library and information needs that must be met with care and discretion. At this age level, most young adults are searching for a lifestyle, a goal, and a way of perceiving themselves and the world around them. These needs require materials that give them intellectual stimulation, emotional backup, psychological information, and philosophical realization.

Vocational and career information needs are more practical. They can frequently be answered by career guidance pamphlets and items that give the young adults and students insight into the areas in which they are interested and some realistic information, e.g., what is a particular career really like?

Accomplishment skills and information needs refer to those materials that give the young adults and students a sense of accomplishment, a feeling of doing something gratifying with their hands or of performing a valuable function as with mechanics, sewing, carpentry, sports, crafts, etc. This need is separate and distinct from recreational or escape-type needs and should be considered separately.

The above needs can be met in a variety of ways, some of which are outlined below.

(1) Provide what the young adult or student wants and needs in the form of material and media. This includes all kinds and types of material. Provide easy access to these materials.

(2) Provide a well-trained and responsive staff to work with and for young adults and students. Provide enough staff, professional, paraprofessional, and clerical, to cope with the demand. Allow this staff leeway in planning the service to young adults and students and encourage them to work with other community agencies. Encourage communication between the staff and young adults and students.

(3) Use modern technological advances to increase service and meet needs expressed.

(4) Increase physical facilities and make these facilities attractive, both in looks and ambiance, for the young adult and student clientele.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

At the present time, there is an insufficiency of all kinds and types of materials, e.g., books, pamphlets, recordings, films, etc. That is not to say the material does not exist. It does, and in quantity. It just does not exist in quantity in many libraries serving young adults and students.

There is also an insufficient amount of funds designated to young-adult specialists to allow them to discover, ferret out, and purchase these materials wherever they may be found. We have great problems in providing enough copies of high-demand materials. When young adults and students want something, they want it now; they do not wish to wait 6 weeks for a request to be filled; they cannot or will not understand the bureaucracy surrounding our time-honored request system. With the advent of the paperback book, probably the most important single mass-distribution item used by libraries, we have no excuses for not providing multiple copies of materials that are in constant demand.

There is also a lack of properly trained staff who are given the specific responsibility of working with and for young adults and students. There should be a responsive staff member available to the students, one who will handle their problems with dispatch, treat them as persons, and honor their requests with care, initiative, and skill. These staff members need training, both informal and formal, that will provide them with a framework within which they can better understand and relate to the group that we call the "young adult and student."

Many libraries have failed to respond to the changing needs of the young adult and student and have failed to recognize their special needs and to build collections and add types of materials required to work with this age group. Many are still trying to serve today's young adults with yesterday's materials. It just doesn't work.

Many libraries and library staff are resistant to the changes and adaptations required to implement new technological developments which can improve service. The physical facilities and surroundings that are set aside as the young adult and student sections of the library do not reflect the lifestyles adopted by this segment of the population and are not conducive to the kind of library atmosphere the young adult or student desires. Physical facilities must not be stiff and formal, brown and dull. They need to be as bright and lively as their clientele; they need color, design, humor, casualness, and vivacity.

Young adults and students live and exist at almost all levels of user needs considered at this conference. They are part and parcel of the total community and, even though they are part of some other specialized group, they are still young adults and students and have needs relating to their place in time.

STRATEGIES FOR FILLING UNMET NEEDS

Some strategies that would help to meet the needs of young adults and students are offered below:

(1) Communicate with young adults and students regarding their specific needs and special areas of interest. Know the community and its environs. Be able to demonstrate what libraries can do for young adults and students.

(2) Cooperate with other community institutions and agencies serving this segment of the population, such as schools, clubs, recreational facilities, social service agencies and the like. It is necessary to remember that this is a two-way street of communication and mutual aid.

(3) Establish and institute continuing education for all library staff with regard to: (a) Materials available, print and nonprint, local items, and national fads; (b) range of media that can be used. Remember TV, radio, books, and whatever else, like realia, special collections; attempt to open people's minds to new and/or different types of collections; (c) increase staff recognition of the young adult and student as a developmental process. Recognize young adults as People; or (d) develop in the staff the ability to deal positively with the young adult and student by increasing awareness of their specific needs and psychology and by decreasing hostility toward them as a group. Learn to deal with young adults and students as individuals.

(4) Work with administrative bodies, both within and outside the library, to increase funding so that adequate materials, staff, and facilities can be made available and meaningful.

(5) Communicate with the public, both general and specific. Use this feedback to assist in formulating practices, policies, and programs that fit the stated needs of young adults and students.

Table 4–15 Young Adult and Student User Needs *

Type of information	Purpose of user	Response speed	Delivery mode	Priority
School and curriculum	Education information and data	4 to 24 hr	A/V, computer, print, oral.	1
Recreational	Leisure activity	24 hr to 7 days	A/V, print, realia.	3
Personal development	Enrichment	"	Print, A/V, oral, realia.	4
Vocational career guidance	Economic data	"	Print, computer, A/V, oral.	5
Accomplishment skills, and information	Practical, educational, leisure	24 hr to 7 days on demand.	A/V, print, oral, realia.	6
Audio Visual	Educational, leisure, enrichment, economic, practical, information and data.	4 hr to 7 days	A/V	2

* This matrix model uses the needs expressed in the 3d section of this paper and assigns priority to them.

XI. Library and Information Needs of Aging Americans

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CHARACTERISTICS OF AGING AMERICANS

Three sources provide recent comprehensive data on the library and information needs of aging Americans and the degree to which these needs are being met by libraries today. The sources are the 1970 census, the 1971 White House Conference on Aging, and a **National Survey of Library Services to the Aging,** completed by Booz, Allen & Hamilton, Inc., in November 1972. In all three sources, and in this paper, aging people are defined as those 65 years of age and older.

According to the 1970 census, about 20 million Americans, or 1 in every 10, are 65 years of age or older. The size of the aging group is increasing faster than that of the total population; between 1960 and 1970, it increased 21 percent, compared with a 13 percent increase in the total population. The population over 75 increased at triple the rate of the 65–74 group. It is estimated that there will be 25 million Americans 65 and over by 1985, and 28 million by the year 2000.

The aging are distributed fairly evenly (relative to total population) throughout the 50 States, with the largest concentration in Florida (14.5 percent) and the smallest in Alaska (2.3 percent). Since 1960, Florida and Arizona have experienced the largest growth in relative concentration of aging citizens. The majority live in metropolitan areas (approximately 33 percent in central cities and 28 percent in metropolitan suburbs).

Women constitute 58 percent of the aging population, compared with 51 percent of the total population. This dominance becomes more pronounced in the 75 plus segment of the aging population.

The percentage of aging black Americans is 7.8 percent, whereas the percentage of blacks in the total population is 11.2 percent. The life expectancy of black people at birth is 64.6 years, compared with 70.5 years for the total population.

The aging are characterized by lower educational attainment than the younger adult population. Approximately 60 percent of those over 65 have completed only 8 years or less of formal education, compared with about 25 percent in the 14 to 64-age group. One-fifth of the aging are regarded as functionally illiterate. However, as the present population of better educated individuals ages, the level of educational attainment in the 65 plus age group will rise, although it may always lag behind the level of younger generations.

Employment of the aging has decreased dramatically since 1900. In 1969, approximately 74 percent of the men and 90 percent of the women 65 years of age and older were not in the labor force. These facts have obvious implications for greater leisure and reduced income among the aging.

The median income of the aging is significantly lower than that of the total population. Of the households headed by aging persons, 50 percent have incomes of less than $5,000 (compared with 15 percent of the households headed by younger adults), and 25 percent of the aging are living below the poverty level as defined by HEW. During the last decade (the years of the "war on poverty"), economic improvement among the aging (20 percent) has not kept pace with that of the younger population (40 percent). Most aging people depend on Federal and State pensions and assistance, private pensions, and income from investments—relatively fixed incomes particularly vulnerable to inflation.

About half of the aging are married and living with their spouses. Of the 39 percent who are widowed, 80 percent are women. The large number of elderly women who are not living with their husbands reflects the longer life expectancy of women (74.3 years, compared with 67 years for men) and the fact that men tend to marry women younger than themselves. Approximately one-fourth of the aging live alone or with nonrelatives, 5 percent live in institutions.

Approximately 30 percent of those over 75, and 10 percent of those 65–74, suffer from long-term disabilities. A significant proportion of the aging—approximately 25 percent—are relatively immobile. Although precise statistics are not maintained, it has been estimated that more than half of the users of the regional libraries for the blind and physically handicapped are aging.

RATIONALE FOR SERVING AGING AMERICANS

Within the context of the above facts, as gathered in the 1970 census, the final report of the White House Conference on Aging* provides a blueprint for library planners on the needs and concerns of aging Americans, as they themselves and the people who work with them perceive these needs. Survival issues—income and employment, health care, transportation, housing, nutrition—are the central concerns of the aging. As Dr. Howard McClusky, cochairman of the White House Conference on Aging Section on Education told the delegates: "In the first place, older persons are confronted with threats to their health that frequently occur with advancing years. In the second place, the great majority of older persons are subject to substantial reductions in income without an equalizing decrease in their continuing need for financial resources. In the third place, retirement usually leads to a decline in position with a collateral reduction in status and influence, affecting not only the retiree but also many of those to whom he is significantly related. In other words, great numbers of older persons are covertly, if not overtly, engaged in a running battle for survival."

Related to the battle for physical survival, and perhaps even more crucial, is the battle old people must wage for psychological survival. In a section on "retirement roles and activities," 306 delegates to the White House Conference (34 percent of whom were retired persons) pondered such questions as: "Does our society need its older citizens at all? What are they good for? Do they have a right to a place in our social order? What are older people to do with the rest of their lives after they are no longer working? Does our Nation have any responsibility for helping the elderly to find greater meaning and personal satisfaction in the later years?" The very fact that such questions were debated reflects the psychological climate in which older people live. Affirming that "given proper resources, opportunities, and motivation, older people cam make a valuable contribution," the group proposed 15 recommendations, including better preparation for retirement, leisure, and life off the job, greater involvement of older people in community and civic affairs and in formulating goals and policies on their own behalf, and special effort by the mass media to enhance the image of older persons. The psychological problems of old age were also considered in the section on housing, when Cochairman Noverre Musson emphasized the needs of the aging for independence, security, identity, and personal well-being. Commenting on the aging persons' evaluation of their own worth, he said: "Identity can be jeopardized when a person falls on loneliness. Fear of being left out, fear of being neglected, forgotten, do more damage than most of the more diagnosable ailments of the elderly, if in fact not inducing them."

Against the grim picture of lonely old age, Psychologist Evelyn Mills

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*White House Conference on Aging. "Toward a National Policy on Aging: Final Report." 2 vols. Washington, D.C.: Superintendent of Documents, 1973. [illegible]

Duval emphasized the importance to most aging people of their family relationships. The great majority of persons over 65, she told the delegates, "live in families…most are married and living with their spouses, some are making homes for their adult children…or elderly parents." She cited many recent studies that document that a "two directional, three-generation flow of emotional and financial support is common between older parents and grandparents and their grown children." Disengagement, Mrs. Duval asserts, "tends to be into rather than out of the family."

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Throughout the discussions on these major physical and psychological survival issues at the White House Conference were recommendations of great relevance for libraries about the need for: (1) **Information about and referral to community resources;** (2) **information about how to minimize the difficulties of old age and maximize its opportunities,** to the aging themselves and to their families; (3) **information about the special needs of the aging in the areas of housing, income, employment, health care, nutrition, etc.,** to citizens responsible for planning, policymaking, appropriation, legislation, etc.; (4) **preretirement preparation,** including education on creative use of leisure, and how to plan for life on a reduced income addressed to middle-aged people; (5) **education toward more constructive attitudes about aging as a part of life to be respected and enjoyed,** to people of all ages.

The discussions at the White House Conference most immediately relevant to libraries, however, were those about the educational needs of the aging. As Dr. McClusky, co-chairman of the Education Section, admitted, "in general, older persons do not perceive education as having any (direct) relevance for their interests and needs." The aging tend to base their image of education on their own experiences in the classroom at least a half century ago and to see it as unrelated to their present problems. Their typical response is often "Why do I need any more education? What can it do for me? It is too late for that," etc. The fact that most aging people have experienced less formal education, their belief that old age impairs learning ability, and also their reduced income, mobility, and energy are factors that tend to keep old people away from formal adult education classes.

Delegates to the Education Section stressed the importance of lifelong learning, directed toward "an acceptance of the dignity and worth of nonwork pursuits," the development of leisure skills, maximum use of community resources, more successful adjustment to aging, and training for political action. They recommended that the elderly should be involved in the planning of educational programs and that special effort should be made to reach those who, because of low income, poor health, foreign language, or illiteracy, are "less likely to respond voluntarily." Barriers that discourage older people from taking advantage of educational opportunities should be replaced by incentives such as transportation, free attendance, auditing privileges, open admission policies, flexible hours, and convenient locations. Although the delegates favored programs in which the young and the old learned together, they affirmed that "alternatives must be provided which emphasize the felt needs of the aged at their particular stage in the lifecycle."

Among the 23 recommendations about education adopted by the Conference were two that refer specifically to public libraries. Recommendation VII: **"Public Libraries, a Community Learning Resource"** states, "public libraries serve to support the cultural, informational, and recreational aspirations of all residents at many community levels. Since older adults are increasingly advocating and participating in lifetime education we recommend that the public library, because of its nearby neighborhood character, be strengthened and used as a primary community resource. Adequate and specific funding for this purpose must be forthcoming from all levels of government and, most important, from private philanthropy." Recommendation VIII proposes that a title be added to the Library Service and Construction Act to provide library service for older adults.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

How well are libraries today meeting the needs of the aging so clearly defined at the White House Conference? An inventory of special services to the aging offered by all public libraries serving 25,000 people or more was completed in November 1972, by Booz, Allen & Hamilton under the sponsorship of the U.S. Office of Education. The inventory defined a program or service to the aging as "any library program or service: (1) Which is offered specifically for the aging, or (2) in which 50 percent of the participants are 65 years of age or older." The study thus did not attempt to gather data on routine services to individual library patrons who happened to be aging. With service areas totaling over 105 million people, 841 libraries (out of 1,331) responded to the researcher's queries. In these service areas live about 52 percent of the aging population of the Nation.

About 80 percent of the responding libraries offer some special service to the aging. Most of this service (61.7 percent) is to the handicapped, homebound, or institutionalized – a group who constitute about 25 percent of the aging. Services include delivery of books by mail or in person and deposit collections in nursing homes, residences for older people, and service centers. The total number of aging reached by these extension activities was 126,289 (46 percent).

Slightly less than half of the libraries conducted some special group programs for the aging either in the library or in some other center. One interesting discovery was that group programs held outside the library attracted about 50 percent more people and cost about 30 percent less. A total of 74 percent of the libraries provided special materials for the aging, usually books in large print or "talking" books.

Funds budgeted annually by the responding libraries, specifically for services to the aged, amounted to $1,448 million, slightly over 1 percent of their total budget. Most of this—$969,000—came from sources other than local taxation (usually grants from LSCA or other Federal programs). For fiscal years 1971 and 1972, the average amounts budgeted by the responding libraries were approximately $7,500 and $7,850, respectively.

The total number of aging reached by all these services was only 204,541, or less than 2 percent of the aging in the reporting libraries' service areas. Even granting that the inventory does not reflect the libraries' primary service to individual users, the record is deplorable. The libraries admitted that they now give service to the aging the lowest priority among the five age groups in the population [preschool children, young adults, adults (21 to 64) and aging (65 plus)]. They anticipate, however, that service to the aging within the next 5 years will be ranked on a par with that to children and young people, after service to adults 21 to 64.

Insufficient funds were cited by the libraries as their chief constraint in serving the aging. Other constraints were difficulty of access to the library caused by architectural barriers and transportation problems, inadequate coordination between all community agencies serving the aging, lack of staff, and difficulty in identifying the aging. A preliminary study of public library service to the aging, completed in 1971 by Booz, Allen & Hamilton in cooperation with the Cleveland Public Library, led to the conclusion that "**librarian interest and motivation are primary factors in the development of services to the aging.**"*

STRATEGIES FOR FILLING UNMET NEEDS

As a nontraditional educational agency, dealing with individuals in an informal mode, the public library could play a central role in the education of the aging. The content, the manner, the level, and the mode of delivery are all clearly indicated by data in the census and in the White House Conference Final Report. The following conclusions seem almost too obvious. Public libraries must:

(1) Plan library services WITH aging users and potential users.

(2) Concentrate upon information and referral services that will

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*"National Survey of Library Service to the Aging: Final Report." Contract No. OEC-71-[illegible], December 1971.

aid the aging and their families in coping with survival problems—housing, income, health care, safety, nutrition, etc.

(3) Present a more positive image of aging as a part of life by creative promotion of materials and services.

(4) Bring aging people together with others of their own age, and with younger people in programs designed for cultural enrichment and lifetime learning.

(5) Emphasize adult basic education, reading, computing, coping skills.

(6) Deliver library materials, services, and programs to the aging where they are—to their homes, to senior citizen residences and centers.

(7) Provide transportation to bring the aging to the library for individual reader guidance and group stimulation.

(8) Exploit the potential of nonprint media for the benefit of the functionally illiterate and poor reader.

(9) Present educational experiences in an uncompetitive, nonthreatening, informal manner.

In general, public libraries need to recognize that the aging are a significant part of the American population. Unlike most children and teenagers and many younger adults, the aging commonly have no library other than the neighborhood public library to which to turn. Because the aging tend to shun formal adult education, it is particularly important that the public library exploit for them its traditional pattern of **informal, individual education.** The relationship between **information** and **survival** needs to be underscored and dramatized.

How do public libraries move from their present minimal service to the aging to a more responsible and effective service? As first steps:

(1) Library schools, State libraries, public library systems, and library associations should give greater emphasis to teaching the insights, attitudes, and skills needed for service to the aging, both at the preservice and continuing-education levels.

(2) Public libraries and State libraries should work more closely with other community agencies serving the aging, learning from them and placing library resources at their disposal.

(3) Library service to the aging should be planned with aging users and should be evaluated in terms of clearly conceived objectives.

(4) Public and State libraries should designate staff responsible for coordinating service to the aged.

(5) Since financial constraints are perceived as central, the Federal Government should provide funds for program devel-

opment, professional training, and research on the library and information needs of the aging.

(6) Library associations and the library press should give greater prominence to service to the aging in programing and reporting.

Table 4–16 Library and Information Needs of the Aged

Type of information	User Subgroup	Purpose to User	Response Speed	Response Mode	Priority **
Information about and referral to community resources.	The aged. Families of aged. Social agencies.	Survival. Survival. Better planning and referral.	1	Telephone Personal out-outreach—delivery to aged where they are. Interagency cooperation.	1
Promotion of materials and programs projecting a more positive image of aging.	The aged. The total population.	Psychological survival. Discovery of new roles. Fuller life.	5	Reading lists, displays, film programs. Book discussions. Mass media.	1–2
Informal adult education group programs.	The aged. The aged and younger adults.	Personal enrichment. Stimulation. Contact with people of different ages.	5	Programs planned with aged. Utilization of wide community resources. Location where aged are. Transportation for aged to library.	2
Adult basic education Reading, computing, coping skills.	The aged with low educational attainment.	Survival. Personal enrichment.	5	Personal—one to one tutoring. Adult, easy-reading material. Nonprint material. Cooperation with schools.	2
Delivery of library materials and reader guidance to shut-in and institutionalized.	The aged who are shut-in at home or in institutions.	Stimulation. Personal enrichment.	5	Delivery by librarian.	1
Retirement information.	The middle-aged.	Preparation for fruitful retirement, creative use of leisure, etc.	5	Liaison with business and industry and labor. Reading programs. Lecture programs. Cooperative planning with universities.	1

Table 4–16 Library and Information Needs of the Aged—Cont.

Type of Information	User Subgroup	Purpose to User	Response Speed	Response Mode	Priority
Material for blind and physically handicapped.	The aged unable to use conventional printed material.	Personal enrichment. Stimulation.	4	Audio-visual media ("talking books", cassettes, large-print books). Delivery to where people are. Transportation to library when feasible.	1
How to work with and care for aged.	Families of the aged. Librarians professionals and non-professionals working with the aged.	Survival. Skills to better serve aged.	5	Reading—discussion programs. Film discussion programs. Cooperation with other agencies.	1
Information on the needs of the aged in housing, income, maintenance, health, etc.	Legislators. Administrators responsible for planning services. The general public.	Planning and supporting services for the aged.	5	Capsulated information. Current awareness services. Displays—reading lists. Use of mass media.	1

* 1 = under 4 hr.
2 = under 1 day.
3 = under 1 week.
4 = under 1 mo.
5 = speed not applicable.
** Scale 1 to 5 with 1 top priority.

Table 4–17 The Aged as Users of Library and Information Services: Priority Scale *

The degree to which needs are unmet	Size of group	Relation to broad social goals of Nation	Method of delivery needed	Present assumption of responsibility		
				National	State	Local
1 Approximately 2% of aged are presently served by libraries.	20 million (1 in 10 Americans). Most neglected by libraries are those living alone in the community.	3 The percentage and number of aged is rising. White House Conference has been held. The Older American's Act has passed.	Interpretive information (1). Personalized delivery (1).	3 (If Older American Act is funded.)	5 (State libraries do little.)	5 Most public libraries attach low priority.)

*Scale 1 to 5.
1 = Most intense.

XII. Library and Information Service Needs of the Geographically Remote

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CHARACTERISTICS OF THE GEOGRAPHICALLY REMOTE

In a society characterized by urban centers of commerce, education, communication, politics, and organized services, physical distance from these centers is an obvious identifying factor. Physical distance implies cultural and psychological distance, as well. Growth in urban technology and complexity of life serves to increase the differences between urban and rural areas. Those areas relatively untouched by urbanization become anachronistic; those areas in transition to urbanization become the scenes of complex identity crisis.

Significant differences exist between urban and rural areas—in lifestyles, attitudes, and values, in information needs and in delivery system needs. Remoteness isolates rural peoples from each other as well as from "the mainstream." There are active diversities in race, history, culture, education, socioeconomic status, age and degree of exposure to urban life. Of the one-third of the total U.S. population classified as "rural" (59 million), nearly nine-tenths is white: farm and nonfarm, middle class and poor. More than 90 percent of the remaining one-tenth are rural blacks in the Southeast; 7 percent are American Indians on reservations (*21*). The remaining are Mexican-Americans in the Southwest, and rural natives of Alaska and Hawaii. Despite obvious differences, each group shares certain characteristics and, therefore, certain needs that none shares with its urban counterpart – those needs directly related to life in remote areas.

To determine information and service needs, it is necessary to concentrate primarily on the disadvantages of life in isolated areas in comparison to the advantages of life in urban areas. However, while isolation does imply remoteness from information and services, it also implies remoteness from overcrowding, air pollution, noise, high-crime rates, artificial environments, and depersonalization. The goal is not to urbanize isolated areas, even in an informational sense, but to add the best of urban life – knowledge, information, and human services – to the slower pace and personalized atmosphere of country living.

(1) *Geographic remoteness means a different way of obtaining information.* In rural areas, oral communication from neighbors tends to be the primary source of information, due not only to a shortage of organized information services, but also to a lack of knowledge of their existence and belief in their use. Isolation causes alienation and a suspicion, a mistrust, of information obtained from the "outside world." Rural peoples tend to be ear-oriented, a condition which calls for audiovisual materials in preference to print. They also tend to be person-oriented rather than thing-oriented, which calls for individualization and personalization of materials delivery. Even if information is available, it will not be used unless it is presented in a way that takes into account these characteristics.

(2) *Geographic remoteness means remoteness from health services.* In isolated areas – far from doctors, specialists, hospitals, and often from public health agencies – adequate health services are hard to get. The problem of sheer distance is compounded by a resulting misunderstanding and fear of medical treatment. These factors, combined with fatalism, cause many to resign themselves to living with and dying from illnesses that are curable with treatment.

A large part of the problem is lack of information that speaks to health needs: referrals – where to go for treatment and what to expect; prevention of disease emphasizing nutrition, symptoms of disease, and care of the sick at home; and special health problems of rural areas – from inadequate water and sewage systems, use of chemical fertilizers and insecticides, and rodents and other animals.

(3) *Geographic remoteness means lack of knowledge of and access to social service agencies.* Information on what services are offered, how to obtain them, and what to expect from them is lacking. Community referral card files seem to be a way of meeting the information need. Many isolated people are unaware of their eligibility for social services. Many have negative attitudes of mistrust, misunderstanding, and fear of being patronized or "tricked." Provision of information is necessary on all

reading levels, but availability will not suffice. In the area of social services particularly, the person who transfers the information must act in an advocacy or counseling role, which calls for both specialized training and interagency cooperation.

(4) *Geographic remoteness often means remoteness from adequate education.* Because of the low tax base and poor funding of schools in isolated areas, rural classrooms and school libraries are unable to offer the range and depth of information available in better-funded urban schools. Kentucky, for example, whose remoteness is the result of rugged topography rather than distance, falls near the bottom nationally in amount spent on each child. The tax base is not there. A survey of 26,000 teachers in Appalachia found that 43 percent rated their school libraries as "inadequate or not present" *(1)*. The same study showed that most rural teachers are reared and educated close to their place of employment. Often, they impose on their students their own culturally inherited limitations in information gathering and transfer.

(5) *Geographic remoteness means remoteness from traditional methods of continuing education.* High school or grade school dropouts and high school or college graduates in isolated areas are often unable to continue their education. While the problem of distance from colleges and universities and urban adult education centers is helped through extension courses, adult education programs, and educational television, the library needs to make available supplementary materials on all reading levels, from adult basic education to the arts and sciences. The library should assume a role in continuing education programs as a center or open university. Continuing professional education is an urgent need in rural areas that can be met in part through interlibrary loan.

(6) *Geographic remoteness means remoteness from political centers of power.* Lack of information and involvement in politics has resulted in all too common political apathy in rural areas, an easy target for exploitation. Most political power is centered in one part of the county, to the disadvantage of the scattered, unorganized, and uninformed rural residents. Lacking the information and confidence to protect their rights by participating fully in their own governing, isolated rural residents resign themselves to being powerless, leaving that power to those who will have it—the "ruling families" in town, or landowners and businessmen from urban areas whose commercial interests in rural land and resources dictate policy.

(7) *Geographic remoteness means remoteness from economic opportunity.* Although only 29 percent of the Nation's population live in rural areas, 43 percent of its poor live there. In urban areas, one person in eight is poor; in rural areas, one person in 4.* Information must be of three

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*Edward T. Breathitt (chairman), "**The People Left Behind: A Report by the President's National Advisory Commission on Rural Poverty**" (Washington, D.C.: U.S. Government Printing Office, September 1967).

different types: (a) That which would prepare the isolated person to relocate in an area where he could find employment – how to get training; where jobs are; how to choose, get, and cope with, a job; (b) that which would help the isolated person make the best possible use of his resources where he is: land use, better methods of farming and herd management, woodland management and products fishing, training for jobs in nearby towns, markets for handmade crafts, setting up a business; or (c) that which prepares the isolated person for the possible industrialization of his own area. A study of the rural poor in the Ozarks region indicates that as industrialization occurs in isolated areas, inmigration also occurs, bypassing the rural poor.[*] To enable the rural resident to compete with in-migrants in the event of new local industrialization, work-skills materials on all reading levels are needed.

(8) *Geographic remoteness means a lack of knowledge of urban life.* Information on relocation skills is needed by those who must move to urban areas. Materials on how to cope with urban life – finding housing, a job, transportation, and services; dealing with traffic, overcrowding, urban crime, noise, pollution, and urban impersonality – all are necessary for survival in what appears to be a "concrete jungle" to relocating rural people.

(9) *Geographic remoteness is remoteness from the consumer advantages of urban areas.* Economic self-sufficiency is a lost art. Rural people in many areas are caught between a latter-day pioneer philosophy that teaches self-sufficiency and independence, and the present reality of an interdependent society in which self-sufficiency is not possible. Devoid of the pride of their ancestors in their way of life, yet remote from the commerce of cities, rural peoples have difficulty in coping with an economic system in transition.

Although assaulted through television commercials by the consumer standards of the urban middle class (comparable to those of the rural upper class), the rural consumer has little choice of what product he will buy, where he will buy it, or how much it will cost. He is easy prey for the unscrupulous salesman (who is particularly effective in rural areas because of his "personalized delivery system").

(10) *Geographic remoteness is remoteness from information for rural businesses.* Small businesses, rural community development corporations, and large industries offer employment for isolated people, but find themselves restricted by a shortage of information and communications available in urban areas. An Appalachian report stated that libraries had little or no impact upon community growth from an economic standpoint.[**] Recognizing this need, AIRS (Appalachia Improved Reference Services) was designed to help libraries in a rural

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[*] Lloyd D. Bender, Bernal L. Green, and Rex R. Campbell, "Trickle-Down and Leakage in the War on Poverty," **Growth and Change** (Lexington: University of Kentucky Press, October 1971), pp. 34-41.

[**] Norman P. Wetzel, "Putting on Airs," **Ohio Library Association Bulletin**, October 1971, p. 11.

area to build and strengthen the general reference collections and to insure some degree of specialization in reference to business.* In seven counties in rural northeastern Ohio, Project AIRS surveyed local business people for information on labor laws, tax regulations, congressional legislation, business directories, and product information.**

(11) *Geographic remoteness means remoteness from a variety of leisure activities.* Current movies, plays, clubs, professional sports, and other organized activities are lacking. Fiction materials, practical information on recreation and hobbies, and a community gathering place for leisure activities such as movies, plays, art, music, crafts, and special programs are characteristically missing.

(12) *Geographic remoteness often means that religion is central to the culture.* The rural church, especially in the Southeast, serves as an important community social unit. Strong religious – often fundamentalist – beliefs are often central to the culture. The Appalachian Adult Education Center, in two rural projects coordinating services between libraries and adult basic education, has found that religious materials are patron favorites. Many adult learners list "to learn to read the Bible" as a reason for enrolling in classes. The fulfillment of this need serves to initiate a belief in libraries and reading in those not previously library users.

(13) *Geographic remoteness means that the family is the primary social unit.* In isolated areas many activities, relationships, and social services that extend in urban areas to other groups are centered in the extended family unit of uncles, aunts, grandparents, cousins, in-laws, and siblings who reside nearby, if not under the same roof. Human relationships are based more strongly on family relationships than in urban areas where peer groups are more important. Yet remote areas are lacking in family counseling services.

(14) *Geographic remoteness means remoteness from special services for young children.* While the average rural family has more children than the average urban family, rural areas have far fewer day-care centers and kindergartens. There is a need for children's literature, and for the stimulation of interest in reading and information-seeking in young children whose parents have usually not set this example. Toy-lending libraries aid in the development of the rural poor child, as well as information for his parents on child development, guidance, and nutrition. Traveling puppeteers and story hours and stories on cassettes and records are needed.

(15) *Geographic remoteness means remoteness from special services for the aged.* Many aged in rural areas have all the problems of disadvantaged groups: caught uncomfortably in rapidly changing times, they are poor, unemployed, neglected, and isolated. Rural areas have a larger proportion than urban

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*Ibid. p. 8

David Stoeckle, AIRS project director, **News Release (Dover, Ohio: Nov. 17, 1970), p. 2.

areas of aged dependencies, due both to strong family ties and to the absence of special institutions (*21*). Desiring the self-sufficiency of youth but with little income, their offspring outmigrants to an urban area, the rural elderly often are taken in by relatives, shuffled about from kin to kin, taken to an institution in a strange city, or left alone without resources to fend for themselves.

Part of the problem is lack of information about social security, pension benefits, legal rights, custody of the aged, health care, other special services and care of the aged in the home. Large-print and nonprint materials are needed for information and entertainment. Physical facilities of libraries need adjustment to allow older people access. During the day, libraries and mobile facilities offer meeting places to assuage needs of the lonely.

(16) *Geographic remoteness means remoteness from opportunities for women.* Women in rural areas are doubly unliberated: (1) Living in cultures that tend to teach in even more explicit terms than do the dominant cultures that a woman's sole functions are to bear children, do housework, and be obedient; and (2) living in areas where few vocational and educational alternatives exist for men and even fewer for women. Information is needed to prevent waste of human resources: to inform women of alternatives in addition to those offered their mothers; to make the jobs of homemakers, wives, and mothers easier; and to speak to being female in an area remote from the largely urban middle class struggle for equal opportunity.

(17) *Geographic remoteness means remoteness from special services for the mentally and physically handicapped.* The handicapped in rural areas are further disadvantaged by inaccessibility to, and lack of knowledge of, the existence of special treatment and education centers. Referral information and materials both on the care of the handicapped and for their use are desperately needed. Also, physical changes are needed in libraries, such as ramps to permit access.

(18) *Geographic remoteness often means remoteness from adequate housing.* Every 13th house in rural America is classified as unfit for habitation. Of the bad housing in the United States, 44 percent is located in rural areas.* This is a statement about poverty, but it also attests to a need for information about housing alternatives on government and bank loans, the advantages and disadvantages of trailers, house construction and repair, and do-it-yourself plumbing, electricity, heating systems, and home maintenance.

(19) *Geographic remoteness means remoteness from organized emergency services.* Information about the nearest fire department, ambulance services, and emergency organizations is needed, as well as self-help in emergency situations such as fire, flooding, storms, and tornadoes. Systems are needed for

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*[illegible], op. cit.

alerting isolated populations to emergency situations.

(20) *Geographic remoteness means remoteness from choice of mass media.* Physical isolation creates social isolation as well. The goings-on of Los Angeles and New York seem far away. Newspapers and magazines are inadequate to meet information needs either for current events because of the slowness of their delivery to rural areas, or for local information because of their national scope.

Radio and cable television seem the best vehicles for information transmission to rural peoples, but even they are isolated. Most cable systems are self-contained, independent, and unlinked to any other. Homemade and out-of-date equipment is still in service in many of the early systems (*12*). The electronic communications media need to link urban and rural America and, also, to act as dispersal agents of local information through local control and origination of programing. There is a need to "increase the community's awareness of their existing cultural system, thereby giving them more control over its development . . . Cable can enlarge the capacity of the local culture to communicate about and control its development."* As the Sloan commission has said, ". . . the health of the community, in many respects, depends upon the ability of the enthusiastic to test their issues by exposing them."** Some libraries have developed cable stations.

(21) *Geographic remoteness means custody of the nation's natural resources.* Conservation of natural resources cannot be a reality unless rural people know where to go for help. Agencies within the Department of Agriculture, such as the Cooperative Extension Service, the Soil Conservation Service, the Agricultural Stabilization and Conservation Service, the U.S. Forest Service, as well as the Department of Interior's Bureau of Land Management, State agencies, and the Environmental Protection Agency have traditionally served this information need well for the middle class, but not for the nonfarm, disadvantaged, and undereducated. Coordination of information services of these agencies with libraries is needed to develop and disseminate both print and nonprint materials on all reading levels, dealing with waste disposal; water and sewer systems; stream pollution; soil erosion; land and water pollution from chemical fertilizers, insecticides, and sediments; surface mining, and woodland protection.

(22) *Geographic remoteness means a life-style closer to nature.* The Drexel study indicates that user needs change with the seasons, particularly in remote areas where life is dependent on nature and natural time periods (*5*). Summer demands information for gardening, recreation, and outdoor activities; fall, for canning and freezing and preparation for school; winter, for heating and hobbies, and warning against alcoholism and suicide; spring, for

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*Paul Ryan, "Cable Television: The Raw and the Overcooked," **Radical Software** No. 2, 1970, p. 22.

**Sloan Commission on Cable Communications, "On the Cable: the Television of Abundance," 1971, p. 124.

house repair, farming, and personal relationships.

(23) *Geographic remoteness can mean custody of the nation's cultural heritage.* The cultures of all rural Americans are rich in folklore, constituting a major contribution to the Nation's heritage that is in danger of becoming lost in the process of urbanization and the resulting homogenization of the American population. Isolation provides a vehicle for the preservation of these cultures – with the help of libraries and local historical societies. Print and nonprint materials that preserve these cultures provide a source of pride and identity to remote peoples, reasserting the value of their cultures to them and to the "outside."

What is needed is much more than an outreach of traditional library services extending to isolated areas. McNeal's survey of rural communities in Tennessee found that while 80 percent of the circulation was in fiction, the expressed needs were for information on vocations, family, health, hobbies, current events, social problems, literature and science, home management, child care and training, sewing and dressmaking and home furnishing, as well as farm management, gardening, poultry, and food processing (3). The primary need is not for fiction, but for materials that deal, on an appropriate reading level, with life problems. Similar needs were expressed in the survey of rural native Americans done by the National Indian Education Association, as well as by consultants from the United States and Canada for the Appalachian Adult Education Center Life Coping Skills Materials List.

An urban study in Baltimore found that only 2 percent of those expressing specific information needs would consider going to a library to fill them. Studies of rural library circulation statistics would cause one to question whether even 2 percent of rural peoples would consider the library as a vehicle in problem-solving. Specialized delivery systems are probably more important than the acquisition of materials in meeting the information needs of the isolated.

RATIONALE FOR SERVING THE GEOGRAPHICALLY REMOTE

Geographic isolation does not isolate the problems of rural people from those of the urban and suburban. While serving the needs of the geographically remote is justifiable in itself, when seen in the perspective of its relationship to other national concerns, service becomes imperative.

The rationale for attempting to meet the information needs of the geographically remote is not that the people have demanded it. They are often too isolated, too unaware of the possibilities, and in many cases too steeped in despair and its resulting apathy to organize and demand the services given to more vocal, more militant, more visible, and more easily accessible urban groups. It cannot be realistically stated either, considering the diversity of needs to bet and the low tax base of isolated areas, that the development and implementation of services will be easy. It is evident, however, that information is becoming necessary for survival in an increasingly complex society, and that the "right to know" is as urgent for the geographically remote as for the urban American. The country simply cannot afford to neglect the needs of nearly one-third of its population.

In the 1970s, one-half of the GNP will be supplied by knowledge industries that require ideas and information rather than manual skills or brawn. The future demands for knowledge workers seem limitless. The longer the isolated population remains without information and knowledge, the greater will be the schism between urban and rural. The needs of the remote must be met because they have a right to know, because knowledge is power, and because, in the words of the National Indian Education study, "people are free to do only those things which they know how to do." *(13)*.

"We are beginning to see that what we call the urban problem has its roots in our rural areas. What I therefore propose is that we deal with the problem at its source, instead of attacking it only at the point of its greatest visibility," said President Nixon in 1969.*

> There was once a test for insanity in which the patient was given a scoop to bail the water from a sink into which a faucet was running. The patient was adjudged sane only if he turned off the tap first. To continue to attack the sink—the urban areas—alone without a true commitment to stemming the source of much human distress—the rural areas—is to throw our social sanity into question. Perhaps the current policy which commits such a large part of our resources to our cities is based in part on a romanticized notion of life in the country. Yet the statistics outline a quality of life for too large a portion of our rural population which includes disastrously deficient housing, starvation, chronic illness, and early death when compared to national life expectancies. Those statistics outline few jobs and low input into the education and job training of the children. They show extreme deprivation for specific groups such as the Appalachians, American Indians, Mexican Americans, migrants, and rural blacks. It is no wonder that such large numbers flee to the cities to swell our urban problem *(8)*.

The average years of schooling in rural areas is lower than that in urban areas, but the best educated from rural areas are the most likely to migrate to urban areas. The net result is the lowering of the educational level in both places, a circumstance that need not continue. By offering the best of urban living—information, services, and the possibility for meaningful and profitable work—while retaining what is attractive in rural areas—the natural beauty, unique cultures, and humanness of interpersonal relationship—we may persuade the talented, intelligent, and ambitious residents of rural areas to remain in their native areas. As rural natives, their potential contribution to the social, educational, and economic development of their areas makes the attempt to meet their information needs a priority.

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*Richard M. Nixon, "Equal Opportunity—Our Policy for Rural America," **National Magazine for Rural America for Town and Country Leaders** (Arlington, Va.: Publications Inc., January 1969) pp. 4–7.

While the rural resident may be docile, resigned, and easy to ignore in his native area, he is noticeably less so if he feels it necessary to migrate to an already troubled urban area.

If he does decide to relocate, the informed person is more capable of coping with the complexities of urban living and less likely to join the urban poor.

Although some rural information needs are being dealt with by agencies other than libraries, and while certain agencies may feel that library and information services are preempting their specialized information-giving roles, it can be argued that libraries are universal, do have some resources, and are a necessary partner in any information-delivery system. They are securely, if not munificently, lodged in the local tax structure of America, both urban and rural, while other information services (such as those more recently funded by SRS) do not necessarily share this longevity.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Table 4-18 contains a matrix indicating the major areas of information need, purposes, response speeds, response modes, and priorities. An adequate matrix, whether designed for geographically remote, biomedical, or labor user needs, would require a voluminous work for the following reasons:

(1) Many subgroups exist within the broad category of any user group.

(2) For effective service, the required character, response speed, and response mode vary widely between subgroups and between information areas.

In the opinion of the authors, a matrix of this kind tends to divert emphasis from the user to materials and the institution, a tendency antithetical to the original intention of the paper—to determine areas of information services needs by looking at users, rather than to take preestablished areas of information and apply them to people. However, given these limitations, the matrix is presented, more as a brief summary of the entire paper than as a starting point. In fact, when viewed alone, it could lead to misleading and undesirable conclusions.

The broad categories listed in column 1, "Type of Information," are comparable to those outlined in the first section of this paper. The reader is therefore referred to that section for more specific discussion of the kinds of information included in each category.

Column 2: "Purpose to User," has also been discussed previously, either in the characteristics section (e.g., geographically remote people need political information because they are largely unaware of their rights) or in the rationale section (e.g., rural peoples need information about alternatives in their native areas to stem their outmigration to cities).

Column 3: "Response Speed," is of limited use, since it will vary widely with particular individual needs, as well as with group and information area needs. Response speed must include not only response from the time of a client request, but also from the time of the recognition of an information need by someone other than the client himself (e.g., a social worker, doctor, teacher, neighbor or paraprofessional information transmitter), since the person in need of information may not know what or whom to ask.

Given the choices – 4 hours, 1 day, 1 week, or 1 month – time periods were assigned relative to the priority assigned in column 5.

Column 4: "Response Mode," lists delivery systems, which are discussed in detail below in the section on strategies: use of print and nonprint materials; materials written on varying reading levels, home or mail delivery, interlibrary loans, use of paraprofessional information transmitters, establishment of rural information cooperatives, interagency cooperation, referral materials and services, and counseling in the home.

The suggested response mode for each information area will vary depending upon the user subgroup. Delivery of any kind of information to the stationary poor, for example, will probably require the use of library-initiated selective dissemination of information through nonprint, print on low-reading levels, home delivery, paraprofessional transmitters, interagency cooperation, referral services, and home counseling. These modes probably are not necessary for middle class and educated rural clients, who would benefit from mail delivery, interlibrary loans, and special programs.

Column 5: "Priority," has also been problematic. With serious reservations, the following suggested system was used: (1) A crucial and immediate need involving human survival; (2) a crucial need involving group or future survival (i.e., economic, educational, cultural); or (3) a need for enrichment and growth.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

The remote have not been able to utilize traditional library and information services for many of the same reasons that apply to other special groups: (1) Their information needs are not the same as the majority of the population; (2) they live in areas with low per-capita income and, therefore, low local-tax support for library and information services; (3) they have generally never been conditioned for active information-seeking.

While LSA and LSCA have created almost universal library coverage of some type (e.g., bookmobile service) there has largely been no more than a physical movement of books, with little consideration of the peculiar information and service needs of the isolated. Services for a people-oriented population are generally lacking. They will continue to be inadequate as long as schools of library science put their stress on mechanical processing of information rather than community needs assessments and communications skills. Rural libraries that are only buildings housing collections are of little use in isolated areas. Lack of any public transportation and inadequate private transportation make outreach services imperative.

There exist only scattered examples of library services to remote people which are truly designed to meet either their specific information or delivery systems needs, which until recently were cited as the norm. Recent demands for accountability have shown the fabric to be very thin. Many of the services truly adapted to the needs of the geographically remote are dependent on Federal funding. They have neither the organizational muscle nor the local commitment to insure continuation. The threatened end to Federal funding could well wipe out gains to this point – particularly for adult services. Federal funds, moreover, have not been used to design low-cost innovative systems that could continue with local funding. Only few States have experimented with mail service in addition to more expensive bookmobiles. Restrictive or overinflated demands for credentials often have prevented reliance upon lower cost community paraprofessionals for necessary information transfer. Structured holdings in warehouse-type facilities – so that almost all available funds can be devoted to outreach services rather than to maintenance of a library facility – are unheard of.

There may be some grounds for optimism. A 1972 Ohio State survey of 20 States (the 2 States with the highest and lowest family income in each DHEW region) resulted in the following ranking of priorities by State libraries: (1) Interlibrary cooperative programs; (2) service to rural and isolated areas; (3) service to the disadvantaged; (4) service to the handicapped; (5) service to the institutionalized; (6) computer applications; (7) libraries as community centers; and (8) service for career education. Since rural areas are the second highest priority, perhaps existing resources will be applied there.* On the other hand, the following five points are particular causes for pessimism about what Patrick and Cooper call the "staggering inequities of information resources due to the fortunes of geographic locations" *(19)*.

(1) Rural libraries are likely to have disastrously small collections. Forty-three percent (262 of 614) of the libraries in Appalachia, for example, have holdings of less than 10,000 volumes.** Over a decade ago (1962), ALA set minimum standards of holdings of 10,000 for libraries serving 2,500 people.*** Therefore, almost half of the libraries in

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*"Ohio State Library Questionnaire," *Future Programs as Areas of Concern to Federal and State Library Authorities: Priorities for Implementation* (Columbus: Ohio State University, 1972).

**Statistics from "Inventory of Selected Public Service Facilities in Appalachian Counties," prepared by the [illegible] Corp. for the Appalachian Regional Commission.

***"Interim Standards for Small Public Libraries: Guidelines Toward Achieving the Goals of Public Library Service" [illegible] 1962, p. 34.

Appalachia do not meet that standard.

(2) A local tax base does not exist in many areas to upgrade rural library services. A 1972 estimate by the System Development Corporation showed that it costs $15 to deliver the quality of service in a rural area that costs $5 in an urban area. If the present Federal administration makes good on its threat to withdraw all Federal support to libraries, the outlook will become even more bleak for libraries in geographically remote areas. Since libraries, unlike schools, are not always mandated by State constitutions, it is unlikely that the Serrano decision can be successfully invoked to insure equalized library services across different income areas. Furthermore, laws in many States "hamper the development of public library service by predetermining the purposes for which local taxes may be levied. In these instances, the statutes must be changed to allow the people to impose upon themselves taxes for library purposes if that is their wish" *(6)*. Although the number of library projects is about evenly divided between urban and rural areas (*20*), this does not mean that the areas get equal service. An urban project can serve many more people than a project in a sparsely populated area, and, geographically speaking, there is much rural area to be covered.

(3) Partly from lack of funds, rural libraries tend to be "hooked on books" to the exclusion of nonprint. Nonprint is very often better suited to the lifestyles of isolated person-oriented and ear-oriented peoples. Even when multimedia purchases are made, such as video tape equipment, the local personnel are often not capable of operating it, and adequate equipment repair is not available.

(4) The majority of rural library personnel are not professional librarians or even trained paraprofessionals. Salary schedules in isolated areas tend to be unattractive to trained outsiders. Local people will probably continue to seek employment without the necessary training as long as this practice is allowed. This throws strong responsibility on regional and State librarians for training and upgrading of local library personnel. A survey of the training activities of State libraries in Appalachia uncovered fine examples of this type of upgrading, but they could hardly be judged as trends. Custodial orientations rather than service and communicator orientations still prevail in rural libraries.

(5) The more isolated the area from urban resources, the less likely the rural library is to avail itself of interlibrary loan facilities.

STRATEGIES FOR FILLING UNMET NEEDS

An attempt has been made to keep

in mind the limited financial resources of remote areas. Across the country there are examples of the following suggestions, but they are not widespread.

The Barss-Reitzel and Lipsman studies have found in all libraries that:

1. The competency of the staff is vital;
2. There is a need for community involvement;
3. Libraries need more visibility;
4. Social changes do occur when people can get intellectual stimulation.

(1) Train professional and paraprofessional communicators to transmit information in isolated areas. The use of trained indigenous paraprofessionals has been shown to be more effective in dealing with rural people, particularly the disadvantaged, than either professionals indigenous to the area or professional or nonprofessional "outsiders." Given the shortage of professionals, the needs for employment and personalized services, and the proven effectiveness of indigenous paraprofessionals, the logical model is a number of paraprofessionals working with one professional, the latter responsible for locating information and organizing services, the former for the transfer of information.

Research has shown that this model depends upon training professionals and paraprofessionals together. Formal and informal training sequences, on-the-job and at the university, must be designed as required courses, rather than electives, including community needs assessment, sociology of rural groups, identification and understanding of special target groups within the rural population (preschool, aged, young adults, professionals, etc.), design of outreach services (mail order, bookmobile, rotating collections, etc.), interlibrary loan procedures, use of nonprint, community resources, coordination of information services with other agencies, evaluation, public relations, readability levels, and personalized and counseling-type referral services.

(2) Organize rural cooperatives for control of information services. The assumption is that knowledge is power. Reviews indicate that isolated peoples have limited access to information and even less control of it. Rural people need to control their information services. (The divided are easily conquered.) When rural people organize in cooperatives, their visibility and effectiveness are greatly increased. Models such as that of Coop Extension (without the class distinctions that reputedly limit it) can be widened to include many kinds of information needed in the community. Other economic or social models could also be studied for adaptability to information control, including community ownership and control of local television and radio stations. Wisconsin's Educational Telephone System might be adapted for both rapidity and availability of information transfer.

These cooperatives could serve the governing bodies of traditional information services, such as libraries, in both advisory and directive capacities.

(3) Establish interagency cooperation in information transmission to isolated areas. In addition to controls of information services by the communities they serve, there is a need for established agencies to coordinate with one another. Any number of information centers may exist, even in rural areas. The problems are relevance, accessibility, usability, and control. While some information services are neglected entirely or little used, others are wastefully duplicated. Through dialogue between all agencies, and nontraditional approaches and services, destructive territorialism and infighting among agencies can be abolished. With the lessening of turfism, greater services can be offered with the same economic and time output. Cooperating agencies should include community action programs, welfare organizations, educational institutions, departments of health and agriculture, teachers' organizations, ethnic groups, church groups, professional organizations, Girl and Boy Scouts, newspapers (including school papers), nearest colleges or universities, and workers who traverse the area frequently, such as salesmen, mailmen, and county agents.

One crucial need that interagency coordination can meet is transportation – the transporting both of information to the users and of the users to the services. CAP buses, for example, have supplied transportation to service agencies for rural residents at a remarkably low cost.

The library can serve as a clearinghouse for all agencies with information to disseminate. Knowing one place to go for information of any kind would be a godsend to people in remote areas.

(4) Seek out or develop specialized materials and services for the geographically remote. Many new materials must be developed to meet the needs discussed elsewhere in this paper, including the rewriting of existing materials on lower reading levels. Materials already in existence must be cataloged and made available. The Appalachian Adult Education Center has compiled a Life Coping Skills Materials List of print and nonprint materials from many sources and on varying indicated reading levels, categorized by practical life coping skill areas such as health, housing, education, etc.

Materials dealing with subcultures could be developed in cooperation with local schools, public libraries, and university libraries through oral recordings, music, storytelling, and crafts and items pertaining to local history.

Services must include the bookmobile. Mail-order delivery must be implemented considering the Washington State model, and bookmobile visits and library hours must be re-scheduled to fit working schedules. Family learning centers should be established at libraries; people can be asked about their information needs with readers' profile cards, wall collections of free materials can be set up. The library can be used as a community facility for clubs, programs, and recreation, and rotating collections can be established.

(5) Draw on urban services such as interlibrary loans and speaker services. Librarians in remote areas must be kept aware of the services and programs that are available from urban and other sources. Isolated persons need exposure to unfamiliar views. Traveling speakers, often not invited to rural areas, could be presented to the community through the library. Interlibrary services are essential for rural areas.

To meet the information needs of the geographically remote, a community information service center (ISC) is recommended with:

(1) Physical and financial attachment to the public library.

(2) Cooperation with other community agencies. The ISC would share materials, clientele, and referral services with the rural cooperative and with other community agencies.

(3) A trained staff of professional information seekers and coordinators and paraprofessional transmitters.

(4) Availability of needed materials, and/or resources.

Information services for the geographically remote must be relevant to their needs, personalized to their individuality, and accessible to their situations. They call for humaneness, for creativity, and for what is revered in rural areas as "common sense:" needs not so revolutionary or demanding, after all, but, in the beginning of the post-modern age, still unmet for people in remote areas.

Table 4–18 Major Areas of Information Need

Type of information	Purpose to user	Response speed	Response mode *	Priority
Health: Referral Nutrition. Symptoms of disease. Treatment. Birth control and abortion. Mental health. Medical self-help. Costs.	Life maintenance.	4 hr	ARL. P. NP. V. HD PPT. PI. RS. IAC. (Doctors, health agencies, hospitals, service agencies for transportation, counseling, financial aid.) RIC.	1

* Key to col. IV: "Response Mode":

ARL	all readability levels	PI	professional information transmitter
HD	home delivery	PPT	paraprofessional information transmitter
IAC	interagency cooperation	RIC	rural information cooperative
ILL	interlibrary loan	RS	referral service
NP	nonprint	SP	special programs
P	print	V	verbal

Table 4–18 Major Areas of Information Need—Cont.

Type of information	Purpose to user	Response speed	Response mode *	Priority
Social: Referral. Services available.	Use of available services.	1 day.	P. NP. V. HD. PPT. PI. RS. IAC.	1
Educational:	(1) supplementary to grade and high school.	1 week.	P. NP. HD. Delivery to school. ILL. Cooperation with schools. SP.	3
	(2) supplementary to adult basic education.	1 week.	P. NP. HD. Delivery to class. IAC for transportation, referrals, services, and with ABE program. PPT. PI.	3
	(3) Continuing education including professional education.	1 week.	P. NP. Media. ILL. Mail delivery. Open university concept.	3
Political:	(1) Awareness of rights, laws, for citizens.	1 day.	P. NP. V. HD. PPT. RIC. In-library forums.	2
	(2) Information for lawmakers.	1 day.	P. ILL.	
Employment:	Obtaining and upgrading jobs, referral.	1 week.	P. NP. V. HD. PPT. RS. RIC. Cooperation with local business, industry, and service agencies.	2

* Key to col. IV: "Response Mode":

ARL	all readability levels
HD	home delivery
IAC	interagency cooperation
ILL	interlibrary loan
NP	nonprint
P	print
PI	professional information transmitter
PPT	paraprofessional information transmitter
RIC	rural information cooperative
RS	referral service
SP	special programs
V	verbal

Table 4–18 Major Areas of Information Need—Cont.

Type of information	Purpose to user	Response speed	Response mode *	Priority
Relocation:	Coping with move to urban area for employment.	1 day.	P. NP. V. HD. PPT. RIC. Connection with urban information centers.	2
Consumer:	Knowledge of rights, budgeting, bargains, brand comparison.	1 day.	For stationary poor: P. NP. V. HD. PPT. RIC.	2
			For other than stationary poor: Mail delivery. ILL.	
Business:	Economic growth.	1 day.	P. Mail delivery. ILL. PI.	3
Leisure:	Use of leisure time.	1 week.	P. NP. HD. Mail delivery. ILL. PPT. RIC. SP.	3
Religious:	Expressed materials need.	1 week.	P. NP. HD. Mail delivery. Cooperation with churches.	3
Family:	Improving family relationships.	1 week.	P. NP. HD. RS.	3
Children:	Child stimulation, guidance, nutrition.	1 day.	P. NP. V. PPT. Cooperation with schools and programs. SP.	2

* Key to col. IV: "Response Mode":

ARL	all readability levels
HD	home delivery
IAC	interagency cooperation
ILL	interlibrary loan
NP	nonprint
P	print
PI	professional information transmitter
PPT	paraprofessional information transmitter
RIC	rural information cooperative
RS	referral service
SP	special programs
V	verbal

Table 4–18 Major Areas of Information Need—Cont.

Type of information	Purpose to user	Response speed	Response mode*	Priority
Aging.	Care rights services.	1 day.	P. NP. V. Large print. HD. Mail delivery. PPT. IAC: Service agencies, health agencies, special programs. RS.	1
Housing:	Knowledge of housing alternatives.	1 day.	P. NP. V. HD. PPT. RIC. RS. Cooperation with housing programs, loan companies, FHA and VA, banks.	2
Emergency:	Self-help referral.	1 week planning or immediate.	P. NP. V. RS. HD. PPT. RIC. IAC: Local emergency organizations, hospitals, doctors, health agencies. SP.	1
Conservation:	Use and custody of natural resources.	1 week.	P. NP. V. HD IAC: Local and State agencies—agricultural, conservation, environmental. RIC.	2
Cultural: (dealing with specific subculture: Appalachian, Indian, rural black, etc.).	Personal identity; preservation of subculture.	Immediate and ongoing.	Development of print and nonprint, cooperation with schools, colleges, ethnic groups, historical societies, paraprofessional gatherers and disseminators working under professional guidance. RIC. SP.	3

* Key to col. IV: "Response Mode":

ARL	all readability levels
HD	home delivery
IAC	interagency cooperation
ILL	interlibrary loan
NP	nonprint
P	print
PI	professional information transmitter
PPT	paraprofessional information transmitter
RIC	rural information cooperative
RS	referral service
SP	special programs
V	verbal

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XIII. Library and Information Needs of The Economically And Socially Deprived

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CHARACTERISTICS OF THE ECONOMICALLY AND SOCIALLY DEPRIVED

Within the last few years in this country, stronger emphasis has been placed on the conditions of the poor and the rejected. Individuals, groups, organizations, and institutions have all been concerned about these conditions. Poverty and low income, low educational attainment, low quality of education, and limited social status have all been objects of interest.

Eugene Johnson (*1*) suggests five types of American citizens who are disadvantaged and in need of services. These are the young – under 21 years of age and including school dropouts; the old – persons over 65 years of age; those who are functionally illiterate; the "new immigrants" who move from rural areas and small towns into urban areas; and the Negroes, who make up the majority in each of the other four groups.

Havighurst (*2*) further describes the disadvantaged groups by listing the following characteristics:

(1) They are at the bottom of the American society in terms of income.

(2) They have a rural background.

(3) They suffer from social and economic discrimination.

(4) They are widely distributed in the United States; most visible in big cities; many are in rural areas.

In racial and ethnic terms, these groups are about evenly divided between whites and nonwhites. They include primarily the following:

(1) Negroes from the rural South who have migrated to the northern industrial cities.

(2) Whites from the rural South and southern mountains.

(3) Puerto Ricans who have migrated to a few northern industrial cities.

(4) Mexicans with a rural background who have migrated to the West and Middle West.

(5) European immigrants with a rural background, from Eastern and Southern Europe.

To this list should be added Cubans and American Indians. Altogether, there are about 25.5 million economically and socially deprived persons in the United States, according to the 1970 census.

In understanding the deprived groups, one must be aware that deprivation refers not only to living in poverty but to being unable to achieve desired goals. Gottlieb and Ramsey (3) suggest that the concept of deprivation implies that the individuals in question fail in competition, not because they want to or because they value any less what other Americans value, but because they are unable to achieve. The authors believe also that the concept of "felt needs" refers to an individual's awareness that he lacks something he would like to possess and that he is willing to take action and mobilize his resources to attain that thing.

RATIONALE FOR SERVING THE ECONOMICALLY AND SOCIALLY DEPRIVED

What, then, are the library and information needs of such groups? Why is it in the national interest that the library and information needs of these groups be met? What is the present status of service to these groups?

As with other groups, the library and information requirements and needs of the deprived are influenced greatly by their human and social needs. The necessity of survival alone dictates the kind of information system needed to help this group solve immediate personal problems.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

The "deprived" or "disadvantaged," terms that are used interchangeably in this paper, share areas of information need in such fields as educational opportunity, legal rights, jobs, career counseling, housing, health, welfare assistance, consumer information, political rights, child care, family planning, family counseling and referral to agencies that can supply indepth services, along **with followup of the referral.** They also need information and literature that will provide them with a pride in their heritage and boost their self-esteem. Once the information has been delivered to them, they will need assistance with interpretation. Moreover, the disadvantaged will need an interpretation of issues and problems that affect them so that the biased presentations they receive through the mass media can be counteracted.

The Nation must make every effort to restore all citizens to a functional level of productivity – if not for humanitarian reasons, then for "the greatest good to the greatest number." All societal forces must be engaged in this reclamation project.

The library and information needs of economically and socially deprived children and young people in school and college are being partially met through federally funded programs specifically designed to help them. Likewise, the deprived adult population is becoming better educated through federally funded programs of literacy and adult basic education. However, recent studies substantially document the fact that a large portion of the deprived population in this country will continue to be deprived for at least a generation, if not longer (4). Furthermore, if the uneducated and partially literate are to achieve their potential in this increasingly technical and scientific society, more emphasis must be placed on making the deprived aware of the value and use of ideas and information. John Burchard (5) summed up the problem succinctly when he wrote, "We have to grapple with the problem of the new urban poor, and grapple with it hard, if only for reasons of humanity – and probably for reasons of national security and peace. . . . It should be of national interest to increase the efforts to reach this group.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

A few cities across this country are making the economically and socially deprived aware of the values of ideas and the importance of information. In these cities, a wealth of materials and services are provided for the persons to whom this pursuit is a new experience. Some of these library and information programs are experimental, while others have the potential for permanence and continuity. Some may be considered "successful" and may serve as models for other programs, while others, perhaps, may be primarily "token" programs that are not meeting the needs of this group. Disregarding the "token" programs, which have achieved very little of lasting importance, let us turn our attention to those which might be considered successful.

A number of library and information programs for the deprived that either are being carried on presently or have been carried on in the past (by public libraries and other agencies in such cities as New York City; Los Angeles and Oakland, Calif.; Houston; Philadelphia; Baltimore; Albuquerque; New Haven, Conn.; and others) use a variety of innovative practices. These innovative practices include extensive film programs, exhibits of contributions by ethnic minorities, bilingual programs, strong emphasis on ethnic-materials collections, field trips, tutorial and remedial programs, outreach work in the community such as street-corner storytelling and audiovisual programs or planning, study courses in ethnic history and culture for church groups, but no fines or overdue notices, no library cards, and no "Silence Please" signs. Other activities include assistance to "Meals on Wheels" programs for senior citizens; and placement of paperback collections in waiting areas such as health clinics, welfare offices, recreation centers, barber and beauty shops, churches, "washaterias," drug rehabilitation centers, storefronts, and housing projects.

Also included are "rap sessions" among older children, young adults, and adults on many current topics; use of psychedelic posters; games, such as dominoes and checkers, or educational and fun games for children, in reading rooms; karate, judo, and boxing demonstrations; rock and jazz music for teenagers; games and refreshments for senior citizens; sewing lessons, given on donated machines or upholstering and arts and crafts lessons with instructional materials from the library; use of brightly colored panel trucks, buses, or bookmobiles that stop at street corners for film showings or puppet shows. Here is the library, then, reaching out into the community—finding the real needs of the people and satisfying those needs from morning until late night in many instances.

Even though these programs have set the stage, there is an obvious need for more programs and services to the disadvantaged in cities and towns throughout the United States. Only the larger public libraries or those in strong county or regional systems have been able to continue services to the disadvantaged, and these have been dependent upon Federal funds primarily.

A great deal of emphasis must be placed on continuity of service if work with the disadvantaged is to be effective. Just when many of the disadvantaged begin to realize that libraries can help them, federally supported programs and services are discontinued, leaving the disadvantaged bitter and distrustful. If the disadvantaged group is to be reached, there must be continued effort to secure a larger share of local tax support for libraries along with a change of emphasis on the part of librarians, library boards, and other local governmental agencies who feel that the library's first and only responsibility is to those who make use of libraries. This is not to say that traditional services should be neglected because of innovative outreach activities; but neither should outreach activities be neglected because of the demand for traditional services. What is needed, as Lowell Martin (6) so aptly states, "is not a 'special' service outside the 'regular' service, but a service adapted to the particular user group among the several distinctive user groups in the city." Service to the deprived or disadvantaged, then, should be considered as an integral part of the total library and information service program. There must be strong determination and commitment—staff, budget, etc.—at all levels of government to establish priorities for service.

STRATEGIES FOR FILLING UNMET NEEDS

Following are strategies that would help to meet the needs of the economically and socially deprived:

(1) Make a strong commitment and have decisionmakers—Federal, State, and local, both library and nonlibrary—take steps to provide for service to the economically and socially deprived.

(2) Conduct on-the-job training and provide continuing education for library and information specialists and other professionals, preferably outside the library walls and within the disadvantaged communities. Emphasis must be placed on improving specialists' sensitivity to the personal and collective problems of the disadvantaged. Consideration must also be given to bilingualism and "black" English to improve the communication process between professionals and the deprived.

(3) Conduct training courses in simple library and information skills for paraprofessionals and/or community aides from deprived areas in preparation for employment.

(4) Actively recruit members from minority groups for the profession. Make available remedial training for the recruits and seek financial aid for their training.

(5) Deliver service to the disadvantaged **where they are**—in homes, neighborhood centers, churches, schools, etc.

(6) Plan programs cooperatively with other agencies that have more experience in working with the disadvantaged: community action groups, welfare offices, Head Start, Job Corps, Youth Corps, employment agencies, NAACP, Urban League, etc. Become an active member of such groups, or remain in constant contact with them.

(7) Make the library and information center relevant, both physically and psychologically, by: (a) providing materials and programs that meet the needs of this group as suggested by them, with strong emphasis on use of audiovisual materials, especially for the functionally illiterate and poor reader; (b) extending the hours of service beyond the traditional hours; (c) providing sufficient staff, to ensure individualized assistance. There must be one-to-one contact; (d) placing a strong emphasis in the centers on the "entertainment" aspect in programing, as an introductory step toward reading and information-seeking.

(8) Conduct remedial and tutorial programs for children, young people and adults. This could be done in cooperation with the schools and other organi-

zations involved in continuing education.

(9) Provide transportation for field trips to central library buildings and branches, and related agencies.

(10) Conduct adult education programs in cooperation with schools and organizations working in this field.

(11) Help librarians and information specialists to combine forces to encourage publishers to publish more high-interest, low-vocabulary materials.

(12) Seek Federal or private funds, perhaps through NCLIS, to produce a definitive bibliography of materials suitable for use with the economically and socially deprived.

Table 4–19 Library and Information Needs of the Economically and Socially Deprived

[In order of priority]

Type of information	Purpose to user	Response speed	Delivery mode
Public library and information center and its services.	Source for assistance with survival problems and other general or specific needs.	Within 4 hrs.	Word-of-mouth most effective, among others.
Welfare assistance.	Emergency survival.	Within 4 hrs.	Referral and followup.
Vocational and career information (how and where to apply for jobs, filing applications, interviewing, where to learn job skills, etc.).	Economic security and self-reliance (removal from welfare rolls, etc.).	Within 1 week.	Referral, counseling, and followup (manpower, Civil Service, Job and Youth Corps, etc.).
Health care and housing (including child care, family planning, personal grooming, housekeeping methods, etc.).	Improvement of physical conditions and living styles.	Within 4 hrs. and/or within 1 month.	Referral and followup; neighborhood center classes and adult education with practical self-help materials.
Educational opportunity (G.E.D. preparation, adult basic education, advanced adult basic education, continuing education, and self-study).	Self-improvement; securing employment, promotions in employment; learning to read; learning English as a second language; raising level of reading ability.	Within 1 week.	Tutorial and remedial classes; literacy programs in cooperation with adult education sponsoring agencies; cooperation with schools.
Consumer buying.	Aid in making maximum use of limited funds; protection from exploitation.	Within 4 hrs. or up to 1 month, depending on needs.	Neighborhood center instruction and/or referral with library sponsorship.
Legal and political rights.	Protection from exploitation; aid to becoming productive citizen.	Within 4 hrs.	Referral to agencies specializing in area; sponsoring "rap sessions" and seminars in cooperation with agencies such as the church, civic groups, etc.

Table 4–19 Library and Information Needs of the Economically and Socially Deprived—Continued

Type of information	Purpose to user	Response speed	Delivery mode
Ethnic and cultural history.	Aid in developing pride in heritage; improving self-image and level of aspiration; motivation for reading (information and recreation).	Within 1 month.	Extensive audiovisual programing; exhibits; "rap sessions"; heavy emphasis in collection on ethnic and cultural history; mobile service; sponsoring fine arts festivals; storytelling; oral history recording; providing high-interest/low-vocabulary materials; start writers' club and publish literary magazine; etc.

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XIV. Library and Information Needs of the Institutionalized Person

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> "I feel more strongly than ever that the worth of the individual human being is the most precious and unique of all our assets and must be the beginning and the end of all our efforts. Governments, systems, ideologies, and institutions come and go, but humanity remains. The nature and value of this most precious asset is increasingly appreciated as we see how empty organized life becomes when we remove or suppress the infinite variety and vitality of the individual."
>
> U THANT—"Introduction to Secretary General U Thant's final annual report to the United Nations at the opening of the 26th General Assembly."

CHARACTERISTICS OF THE INSTITUTIONALIZED

The institutionalized person should be considered within the context of varying institutional environments, both physical and human. Consequently, attention must be given to the total library and information needs of both the people who work with the institutionalized, and the institutionalized themselves. The term "institutionalized," as used herein, is related to all subgroups of our national population and the wide variation in the many groups that are institutionalized.

The institutionalized are found in environments supported at all levels of government and in the private sector as well. They are categorized by many terms (inmates, members, patients, residents, students, etc.) and are found in a growing spectrum of types of institutions:

Correctional Institutions (Federal, State prisons; local jails and workhouses)

Mental Hospitals and Residential Treatment Centers (Federal, State, county, and city mental hospitals and private mental hospitals and centers)

Tuberculosis Hospitals (State, county, city, and private hospitals)

Chronic Disease Hospitals (excluding tuberculosis and mental hospitals)

Homes for the Aged and Dependent Known To Have Nursing Care (Federal, State, county, city, and private nonprofit and proprietary homes)

Homes for the Aged and Dependent Not Known To Have Nursing Care (Federal, State, county, city, and private nonprofit and proprietary homes)

Homes and Schools for the Mentally Handicapped (public and private homes and schools)

Homes and Schools for the Physically Handicapped (public and private homes and schools for the blind, deaf, and physically handicapped)

Homes for Dependent and Neglected Children (public and private homes)

Homes for Unwed Mothers (public and private homes)

Training Schools for Juvenile Delinquents (public and private training schools)

Detention Homes (public and private)

Diagnostic and Reception Centers (public and private)

Community Hospitals (public and private)

The list is based upon those categories utilized by the U.S. Bureau of the Census, although the contents of this array can be argued, because terminology varies widely.

Present data indicate that there are approximately 2 million individuals in approximately 24,000 institutions (see Table 4-20 for details). This information must also be balanced with the institutional needs of the total population, whether on a short- or long-range basis, and such prediction is at best hazardous. Wide variations in data exist because different agencies use different definitions for the institutionalized, different test methods, and different sampling procedures. Recent years have brought a shift in service emphasis from isolated institutional settings to community delivery systems. The "system of the institutionalized" is an array of agencies and services dating from different periods, based on different assumptions concerning the characteristics of the institutionalized population, pursuing different goals, and using different technologies. The effect is one of confusion in which polarized and overlapping elements exist side-by-side.

In addition to the above, there are many special organizations concerned with institutionalized-related research, both medical and nonmedical, as well as human-resource training programs. Further, we find an indirect system that provides benefits or services other than those specifically for the institutionalized; these services are in the areas of welfare, social security, veterans' benefits, and health. The magnitude of this indirect system is substantial and is further elaborated by an informal system that includes services to the institutionalized provided not by established agencies, but families, friends, and acquaintances. The size of this informal system may well exceed the entire range outlined above.

The institutionalized person is confronted by environments that severely restrict his function as a member of society. These environments frequently present both physical and social barriers. A major problem is the social attitudes that indicate a lack of understanding of the individual's strengths and judge him in terms of the effects of "disability." In the past, the institutionalized generally accepted these imposed conditions; recently, they have come to realize that strength is generated by both individual rights and numbers. A liberalization of social thought, and a shift in emphasis of the democratic philosophy to a greater respect for the rights of minorities, have had a salutory effect on the ways in which the institutionalized regard themselves. Many of the institutionalized have come to realize that they, too, have a right to a better life; if the structures of society and accepted social values must be altered, they will seek to alter them.

RATIONALE FOR SERVING THE INSTITUTIONALIZED

The basic rationale for meeting the library and information needs of the institutionalized lies first in consideration of individual people. If the individual is considered, through observation and planning, data could be gathered and recorded about the institutionalized—their activities, feelings, and attitudes. This information could then be converted into specific methods for meeting those needs and helping to achieve personal growth. Two significant areas, in which concern and action are mounting, must be noted: (1) patients' rights, and (2) patient health education.

Lawmakers and citizens are now making efforts to arrive at different legal bases for safeguarding the well-being of the institutionalized, with due consideration to the interests of society, and with recognition that the well-being of the State is dependent on the well-being of all citizens.

A key concept in general services is that of "normalization." This represents a growing, conscious effort to come as close to normal living situations as is feasible, considering the intellectual, physical, and social capacities of each individual.

Library standards, and myriad other standards for the various institutionalized groups, stress the need for equal respect and provision of the same quality of service as that provided to the general populace, organized for the individual's benefit. Government policy and law state that all people have the right to become functionally independent, self-fulfilling persons. Many of the above statements of intent come to us from the past and can still be honored and learned from. However, for the institutionalized, the paucity of library and information services must be but prologue to the future.

Essential to the rationale for serving the institutionalized is the demonstrated greater return on society's investment in education for persons with lower levels of education. It is the thinking of economists and researchers that urges recognition that the least educated can most benefit from increased education and access to information and thus become productive members of society.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Three approaches are suggested for examination of the library and information needs of the institutionalized: (1) Through the perception of the **professional** (doctor, teacher, therapist, psychologist, social worker, librarian); (2) through the perception of the **institution,** either the government or a structure within the private sector of society; and (3) through the perception of the **institutionalized person.** The latter's view of needs is often in conflict with the needs as defined by both professionals and institutions.

The needs of the institutionalized for library and information services parallel those of most citizens. The current 5-year long-range plans of all State library agencies affirm the rights and needs of the institutionalized person to the total variety of a depth of services that can assist in daily living, including job information, continuing education, and the productive use of leisure time.

Specific needs include:

(1) The need to be accepted as intelligent, competent people.

(2) The need to have an active role in decisionmaking as consumers.

(3) The need to realize elimination of barriers to independence, including those related to attitudes and to architecture.

(4) The need to realize coordination of services for each individual.

(5) The need to bridge the gap between the institutional community and the general society.

(6) The need to use special materials and technology: large-print materials, magnifiers, page turners, projectors, readers and reading stands, reading glasses (prism), talking-book machines, records, tapes, playback equipment, talking books, spoken recordings, etc.

(7) The need to utilize materials appropriate to skills, high-interest, low-reading-level materials; bilingual programs; etc.

In addition, there are need areas that the institutionalized themselves have identified: these relate to architectural barriers, housing, transportation, recreation, employment, and the need for skilled and empathetic people. Special attention must be given to the processes of institutionalization, an experience filled with danger and frustration. Research clearly substantiates that lengthy incarceration often results in dependency on the institutional environment itself, coupled with a spectrum of alienating experiences, such as loss of contact with family, peers, and friends.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

While progress has been made in recent years, library and information services for the institutionalized reach only a small fraction of the total population. What services do exist are largely centered in education, rehabilitation, and care for a portion of the institutionalized. Too often, agencies have tended to behave as if they believed that the institutionalized **need or should have those services that happen to be offered** by libraries, rather than that libraries should modify and create services in response to the needs of the institutionalized. This is unfortunately applicable to both the kinds of services offered and the methods and techniques of delivery. There is currently no group or institution responsible for setting common objectives for all segments of the institutionalized population.

Prior to 1967, Federal funding to aid the library and information needs of the institutionalized was nonexistent. With authorization of financial support through the Library Services and Construction Act (Public Law 89–511) service programs administered by the States were started even though only 11 percent (8.751 million) of the authorized amounts ($75 million) were made available. Each State received a total of approximately $175,000 ($35,000 per year, from 1967 to 1971). The results of this infusion and attendant action brought services to 300,000 people who had not been served prior to 1967. These 300,000 people are but 15 percent of the estimated 2 million institutionalized.

To date, library and information services have focused on planning and the development of objectives; little effort has been directed to refining actual needs. Problems and potentials faced in providing library and information services for the institutionalized are not as clear cut as in other needs areas because of the wide-ranging diversity in function and organizational patterns of different institutions, and in the very real lack of homogeneity in the profile of the institutionalized themselves.

Let us consider some of the pervasive limitations:

(1) Lack of adequate funding, and failure to identify alternative sources of funding.

(2) Confusion and complexity in the political frameworks in which library and information services operate.

(3) Orientation to protection and restriction of information.

In summary, the present library and information services are both horizontally and vertically fragmented. Public and private agencies tend to be cut off from one another and even major public agencies function separately. There is serious discontinuity among National, State, and local agencies. Public laws, jurisdictional rules, agency policies, and provisions governing the use of economic resources all tend to lock service units into artificial boundaries and prevent modification and alternative approaches. Even though much planning has been accomplished, and services have been achieved, too many – the majority – of the institutionalized receive little or no service; existing programs are sometimes underutilized; and needless duplication and redundancies are perpetuated.

In consideration of these limitations and inadequacies, it is critical that we view service delivery in its broadest sense; i.e., that we are concerned with the provision of specific services that meet the **needs of individual people for personal growth and development.**

STRATEGIES FOR FILLING UNMET NEEDS

Because it is impossible within the limitations of this paper to cover all, or even most, situations adequately, the following are urgently recommended:

(1) Accept and support the aim of nurturing the personal growth of each institutionalized person.

(2) Integrate library and information programs for the institutionalized into the mainstream of community life.

(3) Plan and mount specific library and information delivery programs that will adequately meet the major needs of the institutionalized.

(4) Include the institutionalized in program planning.

(5) Employ the institutionalized in library and information programs.

(6) Increase funding for the creation and implementation of services.

(7) Achieve equity in services so that all individuals are included.

(8) Utilize diversity as a desirable source of productive competition and avoid overlap in delivery systems.

(9) Actively share resources to insure the viable involvement of large-resource institutions.

(10) Use volunteer activities involving the total community.

(11) Increase awareness and understanding of current and future societal forces that both enhance and restrict opportunities for the institutionalized and discern strategies employed by different types of agencies, organizations, and advocacy groups to initiate, retard, or otherwise work with these forces.

(12) Explore strategies for cooperative support and action of common goals through the library and information community.

The logical sources for program coordination are at the national level, even though most efforts will probably continue to center at the State level. In addition, the total approach to meeting needs must be planned and activated at interstate and national levels. In serving the library and information needs of the institutionalized, many of the delivery systems will have to cross jurisdictional lines as well as interinstitutional lines.

In synergizing library and information efforts the following will be needed:

(1) The system of library and information services must allocate priorities so that a clear and firm commitment is made to encounter **every** institutionalized person.

(2) The system of library and information services must allocate its priorities toward subcategories of the institutionalized so that service design reflects changes in the makeup of the institutionalized population.

(3) The organization and technology of the library and information services must be so structured that services are appropriate to the needs of the great majority of the institutionalized and so that human restraints can be circumvented.

(4) The social systems supporting ideologies of the library and information agencies delivering services must be made compatible with restructured priorities and services. Special attention must be given to library education and the continuing education needs of personnel.

(5) Methods of data gathering and processing must be changed so that library and information systems for the institutionalized can become self-evaluative.

As has already been stated, we are concerned with a spectrum of individual people and settings; none of the recommended changes will emerge from a single approach that relies for its success on the manipulation of one factor alone, such as limited areas of need or human resources, funding patterns, or ideology. The dynamic conservatism of library and information services has multiple roots that require careful planning and action.

Table 4–20 Summary of Residents and Number of Institutions

Category	1960		1970	
	Residents	Number of institutions	Residents	Number of institutions
Correctional institutions	346,000	1,072	196,429	594
Mental hospitals and residential centers	630,000	*** 1,490	396,004	** 950
Tuberculosis hospitals	65,000	497	19,836 (Beds)	108
Chronic disease hospitals	42,000	303	38,144 (Beds)	126
Homes and schools for the mentally retarded	175,000	720	197,048	924
Homes and schools for the physically handicapped	24,000	282	23,825	160
Homes for dependent and neglected children	73,000	1,483	53,3[illegible]2	946
Homes for unwed mothers	3,000	108	4,6[illegible]4	170
Training schools for juvenile delinquents	46,000	454	* 46,000	* 454
Detention homes	11,000	198	* 11,000	* 198
Diagnostic and reception centers	1,000	11	* 1,000	* 11
Homes for aged and dependent	470,000	15,678	849,000	18,910
Total	1,886,000	25,265	1,837,067	23,551

* Census data unavailable.

** Includes for 1970: 314 public (State, county, city) mental hospitals, 369,969 residents; 146 private mental hospitals, 8,264 residents; 500 emotionally disturbed facilities, 17,771 residents.

*** Includes: 129 Federal mental hospitals, 863 public (State, county, city) mental hospitals, 498 private mental hospitals.

Table 4–21 Data on Community Hospitals, and Health Sciences/Medical Libraries

Total number of community hospitals in the United States * 5,820

According to a National Health Panel conducted by the American Hospital Association in February 1971:

- 4,191 (72 percent) of the 5,820 community hospitals in the U.S. operated a library [This percentage falls to 60 percent when only hospitals of less than 100-bed capacity are considered (1,990 libraries in 3,318 hospitals)].
- In the 4,191 libraries, one or more full-time staff members were found in only 1,054 (25 percent).
- In even fewer, 928, was there supervision of the library by a professional librarian.

* Information on the total number of programs serving patients is not currently available.

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XV. Library and Information Needs of the Mentally and Physically Handicapped

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CHARACTERISTICS OF THE MENTALLY AND PHYSICALLY HANDICAPPED

Services to the handicapped have a strong emotional appeal and a sense of vocation is often found in those who are providing these services. There are about 6.5 million mentally retarded people in the United States. They weigh heavily on other millions, such as family members, health professionals, and volunteer workers. At the present rate of occurrence, more than 4 million of the 142 million children who will be born in America between now and the year 2000 will be mentally retarded. Experts can only estimate the prevalence of the physically handicapped in the United States, but one could reasonably suppose that there are more physically handicapped than mentally handicapped persons, approximately 8 million. The lifespace and lifestyles of mentally and physically handicapped persons are restricted, however, and often their living conditions are subaverage. These citizens require specially adapted library and information services—perhaps even more than "normal" persons.

Since there are only about 2 million mentally and physically handicapped individuals in the public and private schools in this country, of which approximately one-third do not have access to library and information services, over 12 million handicapped individuals are currently being deprived of appropriate publicly supported library and information services, which they deserve as citizens of the United States.

In discussing their characteristics, one should deal separately with the mentally retarded and the physically handicapped. To mentally deficient persons, who lack reading skills, the printed page may be threatening rather than inviting. The retarded (MR) have fewer inner resources than normal persons. They usually have limited imaginations, deficits in self-direction, and short attention spans. External stimuli, cues, continuing inducements and reinforcers must be provided. Mentally retarded persons retain learning most readily when they are actively involved in the learning process, can deal with concrete objects, and have frequent opportunities to reinforce previous learning. The mentally retarded also have emotional needs and feelings as do normal persons. They need love, affection, security, personal recognition, and acceptance as persons of worth. They have a continuing need for information. Good library services can provide needed information and help bring about social adjustment and reinforcement of learned leisure time skills.

A major handicap of the retarded is that they cannot keep pace intellectually in a world that places ever-increasing stress on cognitive skills. Their intellectual capacities mature slowly and inefficiently; the physical energy they need for higher mental processes is smaller; their ego and superego fail to develop fully.

Physically handicapped persons' ability to read, and their need for library and information service, are often the same as those of the normal person. However, because of their motor handicaps, it is very difficult for them to have access to traditional public or other libraries, unless some special adaptations and facilities are provided. For example, talking books, tapes, and many other sound materials could be used by the physically handicapped in a community library. Large-print reading materials and full-color visual prints could also be used by the physically handicapped. In addition, the physical limitations of the physically handicapped require the library physical plant to include modifications such as wheelchair ramps and handrails in halls, wide electrical doors, electric page turners, elevators, modified reading tables, and special toilet facilities.

There are also many people who are both mentally and physically handicapped. Persons of all ages and socioeconomic groups are affected, representing a cross-section of the national population and including those who do not read and who never use libraries. This segment of the population, because of its physical and mental dependency, usually leads a very restricted life, with limited access to schools, churches, and other community facilities. Educators find it difficult and challenging to serve the physically handicapped retarded, but this deprived group is particularly appreciative of library services, and library personnel often find their greatest reward in serving these persons. Anyone engaged in human services treasures the opportunity to work with persons who are already motivated and who, from the beginning, are active participants. These are the characteristics of physically handicapped, mentally retarded persons who, after having been treated as dependent, custodial cases, find their world expanding.

Librarians in institutional and public libraries should encourage and train the mentally and physically handicapped to become effective users of libraries. According to civil rights legislation and court decisions, handicapped people who have been so long neglected ought to be considered as deserving special attention.

RATIONALE FOR SERVING THE MENTALLY AND PHYSICALLY HANDICAPPED

According to Public Law 91–345, section 2, library and information services adequate to meet the needs of the people of the United States are essential to achieve national goals and to use our total national educational resources most effectively. The law goes on to state that the Federal Government will cooperate with State and local governments and public agencies in assuring optimum provision of such services. Physically and mentally handicapped persons should be considered as persons who are or who can become special library users and who need particular attention and services.

Library services for the mentally and physically handicapped should be in the form of community-based resource agents for their education, recreation, information, and habilitation. Bibliotherapy should be used in libraries serving the handicapped, using books and other library materials to establish communication and provide a therapeutic climate of acceptance in which positive relationships could be formed. Such innovative use of books and related library materials in the "treatment" of mentally and physically handicapped persons in a community setting suggests the value of an ongoing program of selected activities involving reading and other library related activities planned, conducted, controlled, and implemented by trained professional librarians under the guidance of local physicians and psychologists.

Many countries include in their library legislation provisions for services for the handicapped. The U.S. Library of Congress assumed responsibility for literature for the blind in 1931 when the Pratt-Smoot Act authorizing Federal funds became law (4). This service began to include talking books in 1934 (3). The Association of Hospital and Institution Libraries came into being as a Division of the American Library Association in 1956, illustrating a trend toward services for all handicapped readers. In 1966 Federal legislation, one bill extended library facilities for the blind and physically handicapped; another amended the Library Services and Construction Act. Part A of the latter is concerned with institutional library services, and part B with services for the physically handicapped. With the enactment of Public Law 89–10: Elementary-Secondary Education Act, funds have been available to develop unique programs, methods, and materials to enrich library services for the mentally retarded and physically handicapped. A significant new landmark was achieved with the formulation of the first comprehensive statement of standards for library services in residential facilities for the mentally retarded. These standards were approved by the Association of Hospital and Institution Libraries, and accepted and published by the Accreditation Council for Facilities for Mentally Retarded and Joint Commission on Accreditation of Hospitals in 1971 (*1*). It is because of this legislation, and the fiscal support thereby provided, that the mentally retarded (including those who may never become "readers," in the traditional librarian's view) and physically handicapped must now legitimately be considered as users of library services. Because of the special and unique nature of materials especially useful to the mentally and physically handicapped, library regulations and laws should be enacted or amended to insure an ongoing national commitment to the retarded and physically handicapped, somewhat like the Pratt-Smoot Act for the blind.

NEEDS FOR LIBRARY AND INFORMATION SERVICES

Following is a list of needs, in order of priority, for library and information services for the mentally retarded and physically handicapped.

(1) Library and information services should be equal to those presently available to the nonhandicapped as resources for educational, recreational, and leisure time programs. These services should be adapted to meet the intellectual and physical limitations of the users. These services should provide information that can be incorporated into related activities directed toward the individual's habilitation. Library programs, collections, and environments should be modified to provide a broad spectrum of learning opportunities for individuals and for large and small groups of handicapped persons. The focus of library programs must be expanded to include facilitating and improving the possibility of habilitation through broadening the learning process in new directions. The handicapped user needs special help in development of ideas and concepts rather than in accumulation of isolated irrelevant facts, in inquiry rather than in rote memorization. The materials involved must be developmental in nature. They should be multisensory, mul-

timodal, individualized, and high-interest, low-vocabulary. The mode of presentation should be interpersonal, participatory, activity-oriented, adaptive, realia-oriented, and audiovisual. Librarians must, among their primary goals and responsibilities, help the handicapped person to study effectively, to think critically and objectively, and to acquire interest in and enthusiasm for exploration and self-directed intellectually stimulating activity (2).

(2) A library for handicapped persons should provide adequate informational, recreational, and educational materials appropriate to individual needs at all stages of development in communication skills, including printed and audiovisual media which stimulate sensory development.

(3) Professional librarians providing services to the mentally and physically handicapped should be specially trained to meet the needs of this group and to act as advocates on their behalf if present local policies do not meet their library and information needs. In this type of special service area, the librarian must be totally user-oriented and knowledgeable in the general area of the various community social services. He must be familiar with "survival" information, as well as information dealing with medical, legal, psychological, educational, social, employment, housing, and the social service agencies to which referral can be made.

(4) Library and informational services should be available to the residents of public and private residential facilities for the mentally and physically handicapped as well as to their counterparts who reside at home and who are served by community resources. These services are essential to support and strengthen the total habilitation program by providing complete and integrated multimedia information. The families of these individuals are also in critical need of these services. In addition, these services should make available to the mentally retarded and physically handicapped the resources of local, regional, State, and National library systems and networks, regardless of the users' chronological age, degree of handicap, level of communication skills, or accompanying disabilities. These services should be modified to accommodate the user rather than forcing the user to accommodate himself to traditional facilities. In practice, this means direct availability or assistance through the help of trained professional librarians, teachers, counselors, social workers, or surrogate parents, on group and individual bases.

(5) Libraries geared to serve the mentally and physically handicapped should have a professional literature division with a

collection of printed and audiovisual materials that deal with special education and habilitative science. Content should be adequate to support applied research as well as ongoing operational programs, with all materials professionally arranged, indexed, and publicized through library bulletins to the entire professional community.

(6) All library materials, printed or audiovisual, should be well organized, cataloged, and classified to insure easy accessibility to all types of handicapped persons. Library facilities should conform to American Library Association standards with special facilities and equipment for the physically handicapped and for those with auditory and visual impairments.

(7) Library programs for the handicapped should have adequate budgets for equipment, materials, services, and staff salaries to carry out these essential programs and to achieve special goals discussed in this paper. Funding should be at least the same as that of school and public libraries serving similar enrollments in accordance with AASL and NEA standards for school media programs and ALA standards for public libraries.

(8) In general, libraries for handicapped persons should be designed to meet their highest expectations for social and intellectual growth, and must be so reinforcing as to make the library and its resources and staff a high-order form of self-directed educational and leisure time activity.

For a concise review of these needs refer to table 4-22 at the end of this paper.

ADEQUACIES AND DEFICIENCIES OF EXISTING SERVICES

Of 132 State institutions for the mentally retarded, 45 have no libraries (5). The Wisconsin State Department of Public Instruction conducted a nationwide questionnaire survey of library information service programs for the mentally retarded in 1971. According to this survey and other annual reports, there are 167,963 mentally retarded residents and 95,581 employees in the 132 State-supported institutions for mentally retarded in the various States, in which 139 library staff were employed, including clerks. Nationwide, the ratio is less than 1 library worker for every 1,900 residents and employees, and only 0.05 percent of the institutional population of residents and employees are library staff – far below the ALA and NEA **"Standards for School Media Programs."** According to the standards for prescribed numbers of media specialists, there should be, at each institution, 1 media technician and 1 media aide for every 250 residents.

The quality and quantity of items in residential libraries for handicapped are inadequate. The average number of volumes is only one per resident. Most books are gifts; many are very old ones which any public library would discard.

Where there are institutional libraries for the handicapped, library services are or ought to be the same as for normal persons, modified only as necessary to accommodate variations in mental age or physical ability. In planning and development, however, too little consideration is given to the differences in personality or in learning abilities between the normal and the handicapped user. No consideration is given to integrating the library services with education, habilitation, training, and recreation programs. There are almost no adequate facilities for effective use by mentally or physically handicapped. Most institutions can provide opportunities for delivering books and other materials to classrooms or to resident cottages, but these services are generally poorly organized. Only a few institutional libraries for the handicapped are used directly in support of school programs or incorporated into specific training activities. Few libraries have adequate audiovisual materials and equipment, and these are very important for the handicapped, especially the mentally retarded (5).

The fact is, however, that **institutional** library and information services for the mentally and physically handicapped are currently much better than **community** library and information services for the same group. Therefore, one can quickly see how critical the need is and how appalling the present conditions are in most libraries throughout the Nation in regard to adequate, appropriate services for the handicapped.

Another important consideration in the creation of library and information services for the mentally retarded is the inferiority of such persons in the rate and extent of their learning, and their lack of confidence and skill in using library materials. Many people, including some parents and some library staff personnel, have considered the handicapped as unsuitable candidates for library services, just as people have thought until recently that the mentally retarded could not be educated. Consequently, it has been very difficult for a librarian serving handicapped users to get local fiscal support from public funding agencies. Library services for mentally and physically handicapped persons have therefore often been very dependent upon outside support. However, we must not continue to rely solely on Federal funds or donated materials, such as outdated, used books from public school libraries or donated by individuals. In the future, significant help must come from regularly budgeted local funds.

Federal grants, in addition to State and local financial support, are very important in helping libraries meet the special library and information needs of the mentally and physically handicapped, since multi-sensory adaptive self-enrichment materials, in addition to normal library resources, are so essential to a balanced, integrated total library program aimed at supporting and enhancing useful living in the community or in an institution. No longer can such multimedia materials be thought of as "luxuries" to be provided if funds are available; they should be considered critical components of developmental and enrichment programs.

The above analysis clearly shows that mentally and physically handicapped persons are neglected as potential users of library and information services. It is obvious that currently available library and informational services do not meet the specific needs of these groups. Critical observation has shown that handicapped persons can use a library effectively if the library has enough materials and programs appropriate to their needs, interests, and abilities, and if the librarian and his staff give them the right kind of resources and individualized assistance. As a specific illustrative example, mentally retarded and physically handicapped retarded children and adults at Whitten Village, a residential facility of the South Carolina Department of Mental Retardation, use the institutional library effectively because the facility was designed to accommodate varying degrees of intellectual and physical deficit. Even some severely and profoundly retarded residents profit from special library services.*

STRATEGIES FOR FILLING UNMET NEEDS

There are more than 10 million physically and mentally handicapped individuals in the United States of whom less than 3 percent are residents of institutions. A major national goal is to return at least a third of those persons now in institutions to the community. In the near future, therefore, more and more mentally retarded citizens will be potential users of public libraries, whose services should be appropriate and convenient to the handicapped.

Each public library should have a special department for the handicapped, including ample audiovisual materials such as talking books and Braille publications for the blind, large-print books and cassette tapes for the partially sighted and physically handicapped, and high-interest, low-reading-level materials for the mentally retarded. Librarians must know the characteristics of the handicapped and must understand their self-concepts, social maturity, mental and physical ability, needs, and interests. The retarded adult or teenager should not be treated as a child, though his reading ability may be poor. The content and reading level of materials should be correlated to the mental as well as the chronological ages of the users.

The limitations of mentally and physically handicapped persons in the use of an "ordinary" library have been described. In order to reach minimum objectives, libraries should provide for such persons library activities and programs that are attractive, are appropriate to user needs and capacities, and that induce self-directed use of library facilities. Among handicapped persons, especially the mentally handicapped, there are many for whom books and words have become enemies rather than friends. If library services cling to traditional concepts, they cannot attract handicapped persons as voluntary, efficient users.

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*Through prudent use of limited State and Federal funding and the work of a competent, dedicated staff supported wholeheartedly by the institution's administration, the Whitten Village library program has become a model facility. More than pride in what our youngsters have available to them, however, we feel a deep sense of regret that ours is unique rather than one of many such facilities.

Adequate Federal and State funds for support of libraries are essential. Specific funds should be earmarked for library services for the mentally retarded and physically handicapped in Federal, State, and local budgets. Projected allocations should be stable enough to permit careful advance planning.

There should be available sufficient qualified staff and necessary support personnel to carry out the programs in accordance with stated goals and objectives. In addition, every library serving the handicapped should have a special librarian who has a master's degree in library science from a university accredited by the American Library Association (*1*) with sufficient preparation in special education, clinical psychology, and appropriate fields relevant to work with the physically and mentally handicapped, to perform professional library duties of appropriate quality.

The handicapped need more assistance than others in using the library. Usually, activity-oriented services are better than merely reading to the retarded users or lending them materials that they have not been helped to select. The task is to provide enough guidance to overcome deficits in self-direction and environmental awareness, while at the same time increasing the users' capacity for decisionmaking.

Materials should be selected according to the instructional levels, needs, interests, social/chronological maturity, and motor skills of the users. For example, color and sound filmstrips are very good for the moderately retarded, and puppet shows and realia are better than abstract visual and printed materials for profoundly retarded. Audiovisual materials should be emphasized in library collections. All materials should be well organized, classified, cataloged, and arranged for easy access by the mentally and physically handicapped.

All libraries should have a friendly atmosphere in which *all* users feel comfortable. This is especially true for the handicapped who may be timid during their initial visits. On their first visits, personal contact with a member of the library staff is helpful and the staff should never patronize the handicapped. An adult handicapped person should be given full adult privileges (*6*).

Too often, the world of the physically and mentally handicapped is very small and limited. Special library activities and programs should broaden their horizons. Activities should expand the handicapped person's interest in and awareness of his surroundings as well as develop his aptitudes, attitudes, abilities and values. If handicapped individuals could visit a library frequently, use its materials, and attend the library's programs, some of their basic needs for successful experiences, for enjoyment, and for a feeling of fulfillment might be met. Effective use of leisure time is among the important learning needs of the retarded. There could be no better leisure time activity for such persons, whose life adjustment needs are so great, than voluntary library activities. Underlying this and all other needs of the retarded, public acceptance is crucial.

By way of background information to support the basic recommendation, a description of the Whitten Village library program may be helpful. An experiment in serving mentally handicapped persons has been carried out, with the help of Federal grants, at the Whitten Village Library. Under the direction of the professional librarian and his staff of two certified special education teacher librarians, the Department of Education has initiated many varied programs, the most important of which is the change in the traditional concept of "The Library." The Whitten Village Library program became part of an integrated program of education and habilitation for its mentally and physically handicapped residents. Activities are more than those of a public or school library in that audiovisual materials and related equipment and software are more evident than books. The most popular and effective are those with color pictures, sound, music, and motion. Quietness is no longer demanded of library users, but an attempt is consistently made to give users a feeling of freedom. They may read books, magazines, and newspapers; examine pictures, displays, models; watch color television and puppet shows; and view films or filmstrips; or listen to music recordings, or talking books. There is a satisfactory blend of individualized and group activities as well as quiet and active learning.

Because the mentally retarded are inferior in learning ability, their use of the library is programed intensively. The normalization principle is lavishly administered and, in this regard, the residents have come to look upon library personnel as close friends who can and will help them when they visit. Each resident may check out two books or other materials during each visit and exchange them as they have been finished. More than 200 books and audiovisual items are checked out daily, but surprisingly few are destroyed or lost. The library staff members have instructed residents in the care of books and how to use the library effectively. Students of five special-purpose schools of this institution have regular access to the library facilities. These include schools for the educable MR, trainable MR, adult trainable MR day and evening-school students, physically handicapped MR, and severely and profoundly retarded residents in in-cottage training programs. Their programs include 40 hours weekly of "storytelling," puppet shows, films or filmstrips, media discussions, and other activities prepared and presented by the special education teachers on the library staff.

A library club for mentally and physically handicapped students permits active participation in library work and a viable rehabilitative experience for members of the club. All students' library activities are coordinated with regular classroom teachers to suit the interests, level of understanding, and the present curricular activities of each class. Library visits are designed to be inherently rewarding, reinforcing and pleasurable, providing ample and varied stimuli. The residents retain learning when they have been actively involved in the learning process. Therefore, participation in various library activities is stimulated by discussion, using a multisensory approach, involving materials which are seen, heard, and, with some newer storybooks, even smelled (via "scratch and sniff" technique) or touched (real things).

It was learned that the first step in the achievement of the desired objectives was to help the users become motivated to enjoy the library, and to develop their curiosity and interest in appropriate information services. Interest-building was not a difficult task. From the beginning, students eagerly awaited "library day." The latter objective has required ample, varied materials, and a talented staff.

Educators in schools of library science should inform their students of opportunities for service in special libraries, and provide practical assignments. In recruiting qualified personnel, fellowships for library students who wish to serve the handicapped are suggested.

Public support and awareness of the necessity and importance of library and information services for the mentally retarded and physically handicapped are important initial goals in reaching the ultimate objectives of library and information services for the group. Clearly, this would require extensive orientation of library personnel, and of regular library patrons, to the extent of actively seeking their support as individual volunteers and as public relations people working in behalf of this special group of library users.

Table 4–22 Library and Information Needs of the Mentally and Physically Handicapped

Type of library service or information needed	Purpose to user	Response time required	Mode of delivery preferred	Priority as related to other needs of this subgroup
Legend (criteria).	1. Educational. 2. Recreational. 3. Habilitative. 4. Survival. 5. Enrichment. 6. Motivational. 7. Professional. 8. Developmental. 9. Adaptive Psychomotor. 10. Other.	1. 4 hr. 2. 24 hr. 3. 7 days 4. 30 days or times of availability.	1. Print. 2. Audiovisual. 3. Multisensory. 4. Realia. 5. Interpersonal (one-to-one contact). 6. Microfilm. 7. On-line terminal. 8. Satellite Location	

Table 4–22 Library and Information Needs of the Mentally and Physically Handicapped—Continued

Type of library service or information needed	Purpose to user	Response time required	Mode of delivery preferred	Priority as related to other needs of this subgroup
Library and information services at least equal in accessibility and appropriateness to those now provided for the general population. Regular, frequent opportunities for handicapped persons to visit libraries for preplanned activities which are structured, developmental, and challenging; with emphasis on guided work, encouragement to overcome deficits in initiative and expand environmental awareness of people who have led secluded, restricted lives.	1, 2, 3, 4, 5, 6, 8.	Daytime.* Evenings. Weekends.	All.	1
Variety of material approximate to persons of wide chronological, mental, and social development age ranges, limited cognitive and psychomotor skills needed in reading and varied socio-occupational potential.	1, 3, 5, 6, 8, 9, 10 (AV, multi-sensory, and realia).	Library holdings: daytime, evenings, and weekends; Interlibrary loan: 7 to 30 days.	All.	2
Specially trained staff with knowledge of library service augmented by knowledge of cognitive, affective and psychomotor needs, interest and motivational levels, learning rate, and socio-intellectual and occupational potential of handicapped persons. Library staff persons who can and will function in advocacy role in behalf of handicapped clients.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (application of normalization principle).	Staff may on occasion require as little as 4 hr. response time. Preplanning of long-term programs will permit slower response from the library's resource agencies.	All, plus continuing contact with special educators, physical therapists, social workers, and others involved in service to same clientele.	3
Nonexclusive services, adaptation of programs and facilities to the person and his needs.	All.	Daytime.* Evenings. Weekends.	All.	4

Table 4-22 Library and Information Needs of the Mentally and Physically Handicapped—Continued

Type of library service or information needed	Purpose to user	Response time required	Mode of delivery preferred	Priority as related to other needs of this subgroup
Holdings in or ready access to professional literature for use by library staff and other workers adequate to support research and acquisition of professional competency as well as detailed guidance (sample activities with behavioral goals, unit outlines, etc.) to help in planning daily activities for handicapped persons being served.	7.	1, 2, 3 or 4 as needed, dependent on nature of preplanning by staff and other professional users.	All.	5
Properly arranged facility to accommodate, for example, no architectural barriers, shelves, and card catalogs available to nonambulatory and semiambulatory patrons; simplified indexing, for adult with poor reading skills.	1, 3, 5, 6, 8, 9, 10 (accessibility and usability).		1, 2, 5.	6
Funding that reflects equitable level of support from local, county, State, and Federal agencies and is adequate to meet library and information services needs of an increasingly large proportion of noninstitutionalized handicapped users; sufficient funding to implement fully the normalization principle for institutionalized persons. Systematic budget increases to permit long-range planning and steady, moderate growth in level of services.	All.	(Note: Regular access through information clearinghouse to information on creation and development of services will assist local agencies in planning.)	1, 6, 7 plus conferences.	7

Table 4-22 Library and Information Needs of the Mentally and Physically Handicapped—Continued

Type of library service or information needed	Purpose to user	Response time required	Mode of delivery preferred	Priority as related to other needs of this subgroup
Physically handicapped, intellectually normal users are likely to need only easier access and greater conveniences in library and information services. Hampered in their capacity for work and physical activity, they are likely to be frequent users. The mentally retarded, however, inherently lacking in self-direction, need a facility and an environment (including human services) that is itself reinforcing, increasing the probability of voluntary use.	All, especially 2 and 6.		All, especially 5 and 6.	8

* It should be noted that handicapped persons residing in the community may be able to visit libraries only during evenings and weekends when their parents/relatives/guardians, are free to transport them. The usual 8 a.m. until 4:30 p.m. library hours would be totally inappropriate for many families.

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XVI. Library and Information Needs of the Mexican-American Community

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CHARACTER OF THE MEXICAN-AMERICAN

The Mexican-American has too long been the ridiculed, forgotten minority of the Southwest. The Southwest, as it exists today, could not be what it is now without the unique contributions of the ancestors of the Mexican-Americans. There are at least 5 million Mexican-Americans living in the United States today, and one-tenth of them now live outside the Southwest. In fact, the majority, or nine-tenths, live in the five Southwestern States of Texas, New Mexico, Colorado, Arizona, and California. Texas and California contain approximately three-quarters of all Mexican-Americans, while New Mexico, Arizona, and Colorado have the majority of the remainder (1).

Mexican-Americans have all types of jobs. Though continuously moving from unskilled jobs to more skilled jobs, Mexican-Americans hold a disproportionate share of the unskilled and low-paying jobs. Some 17 percent of them hold professional and clerical jobs; 56 percent have jobs in factories, mines, and construction; 19 percent have farmworkers' jobs; and 8 percent have service occupations (2).

Thus, one of the keenest problems of Mexican-Americans everywhere is their low income and poor occupational status. They tend to be concentrated in the lowest paying occupations and to suffer from unemployment at a significantly higher rate than do Anglos.

Along with the problem of low income and poor occupational status, Mexican-Americans have not been well served by the public school systems of the Southwest. For any immigrant group, a chief source of acculturation, of upward mobility, and of personal adjustment has been the public schools. Yet, Southwestern public schools for years have ignored or refused to face the fact that many of their students are unique – they are bilingual and bicultural. Mexican-Americans constituted 17 percent of the elementary and secondary enrollment in the five Southwestern States in 1968 (3). This was one-sixth of the school-age population of the five Southwestern States. Yet, the proportion of dropouts was far higher than one-sixth.

Why? There are many, many reasons: Lack of relevant school materials, language, and reading problems, unsympathetic teachers, lack of cultural understanding, etc. Jack D. Forbes' **"Mexican-Americans: A Handbook for Educators"** is an example of one kind of response to the need to present at least a minimum of information to teachers about the cultural background and Mexican heritage of the Mexican-American children whom they teach.

Milton Gordon, in his **"Assimilation in American Life,"** points out that culture as a concept is used to refer to the social heritage or way of life of a particular society at a particular time (4).

The Mexican-American community is basically proud of its Mexican background and sees much of value in the Mexican heritage. Mexican traits are kept alive by Mexican arts and crafts, music, dances, cooking, family structure, concepts of the community, the Spanish language, Spanish-language radio and television stations, newspapers, magazines, and Mexican-American political organizations. The Mexican-American community possesses many internal agencies that serve to maintain a sense of belonging to La Raza and that also serve to carry forward aspects of the Mexican heritage (5).

Many Mexican-American areas of the Southwest, rural and urban, belong primarily to the culture of northern Mexico. Spanish preference over English and the bilateral extended family provide a satisfying and strong social background for the individual. Some Mexican-Americans are completely bilingual. Others prefer English over Spanish. Their Mexican cultural heritage has become blended with Anglo-American traits. The transitions going on in the Mexican-American communities often cause Mexican traits to be replaced by values that are the complete opposite to those originally held by the Mexican-American community.

NEEDS FOR SERVICES AND STRATEGIES FOR FILLING UNMET NEEDS

Libraries can do much to provide services for all the needs of the Mexican-Americans. For those who need economic assistance and information, libraries may have material on different job requirements and skills. Also, libraries could build up material that would be helpful for personal development of job skills. For educational support, libraries could work more closely with public schools to complement the needed educational materials for Mexican-Americans. One very important need is for libraries to provide information on cultural heritage of Mexican-Americans. The population has a need to know who they are, where they come from, and where they are going from here.

Another very important need is for libraries to provide materials on Mexican-Americans written by Mexican-Americans themselves. The ability of librarians serving the Mexican-Americans to speak Spanish is a must. The staff should be composed of a significant number of Mexican-Americans having important decisionmaking powers and influence.

It is a responsibility of the Nation to provide ways for the libraries to fulfill the needs of the Mexican-Americans. The Mexican-American exists under two bills of rights, whether he knows it or not. These are the Bill of Rights enjoyed by every American citizen and the special Bill of Rights guaranteed to all Mexican-Americans in the U.S. Senate-confirmed Treaty of Guadalupe-Hidalgo with Mexico in the mid-1800's. One basic guarantee of the treaty was the guarantee of the Mexican-American's right to the preservation of his culture and language. Along with the granting of this right, the United States assumed the responsibility to provide the means to bring it about. However, for the Mexican-American, these two bills of rights are more honored in the breach than in the observance.

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XVII. Discussion Highlights

After, and sometimes during, the presentation of the foregoing papers, the conference participants raised questions or made interesting points about the presented material. All of the presentations and discussion were tape recorded, providing the opportunity to select a few highlights that may help to convey to the reader the thinking of the participants on a number of topics, ranging from the library and information service needs of particular groups to the role of information in our society.

The material in this section is taken verbatim from the tape recording, with a few editorial additions for purposes of clarity. All of the statements are attributed.

ROLE OF INFORMATION IN SOCIETY

"John Diebold . . . [is] arguing in a very thoughtful article in **Foreign Affairs** that we're now entering the third century of the industrial revolution, and that if the United States attempts to maintain a position based on the techniques and strategies of the second century of the industrial revolution, that was focused primarily on mass production of goods . . . our history in the next century may be analgous to what happened to Britain, which dominated the first century of the industrial revolution, and attempted in the second century to maintain the style and technique and tactics of the first century . . . . He is arguing that the significant factor in the third century is going to be information."

"To the extent that knowledge is power, distribution of knowledge to the presently disadvantaged may be the key to allow them to gain the political power to get a fairer share of the resources of the society in other domains besides the knowledge domain."

– Edwin B. Parker

"You prefaced your comments, and I've heard it two or three times today . . . that maybe some of these groups we're talking about as direct beneficiaries to some service . . . are . . . rather small . . . in total population in society . . . I think this is only one aspect of the benefit. Benefits to total society accrue in other ways. . . . I believe that we would be a little remiss . . . if we tried to judge all this on the significance of numbers of that particular group alone."

– Robert J. Frist

INFORMATION SCIENCE POLICY

"My recommendations would be two-fold: first, that we need to differentiate between researchers who need to be beneficiaries of new science information policies and other researchers who could be subjected to a certain benign neglect. And, since it's the ones who are now setting science information policy that ought to be neglected, I think this calls for an overhaul of the science advisory apparatus and that won't be easy to achieve."

"We need to direct attention to the creation of a secondary literature that tries to overcome the deficiencies of the primary literature. We need some new formats that take us out of the seventeenth century and the discursive scientific essay that we still see in every one of our scientific journals."

—William Paisley

NEEDS OF RESEARCHERS

"We can characterize needs most generically as a need to explore the environment created by other researchers, a need to make decisions based on information from that environment, and a need to confirm the decisions, or reduce the probability that one has made an error. So the most generic characterization of needs of researchers are those of exploration, decision and confirmation."

"The primary literature of research findings is most deficient in the attention it gives to procedures, and doesn't provide basis for replication of research."

—William Paisley

NEEDS OF BUSINESS

"Judson Gooding . . . in a *Fortune* magazine article talks about the executive's need for current and reliable information . . . interviews these people on how . . . they cope with the problem, and at no time is the library mentioned. It's not part of the consciousness of the business community."

—Ted Slate

NEEDS OF LABOR

"I ask a question here that is so obvious that it almost shouldn't be asked, but I ask it because it comes up all the time. Why do you serve labor as a group? The answer is, 'Well, why not?' You serve the businessman, you serve the scientist, the technologist, the disadvantaged, why not the labor group? It is an identifiable group. It has identifiable objectives; it has identifiable problems."

"Probably, if there's one group that more needs the extension of . . . services into the community, it is the labor group, simply because they are less likely to come in."

—Bernard F. Downey

NEEDS OF BIOMEDICAL WORKERS

"The kinds of people who are going into the biomedical field have changed, and the way in which information is produced has changed, without anybody's changing the way in which information is processed and made available to the people in the field."

"The methods of obtaining the information are based on the journal, and the journal system of publication . . . . Of the more than two and a half million people who are involved in biomedical work, perhaps only one or two percent are research workers for whom the information methodology in biomedicine was originally planned. As a result, most practitioners do not use it at all, and the way in which they get information is a much more primitive way, if they get it at all."

—Estelle Brodman

NEEDS OF PERFORMING ARTISTS

"A performing artist used to be able to get along on a very narrow repertory . . . . But today with our increased knowledge of the past and so much more art of the past current, a performer can be expected to, and asked to, acquaint himself with a much wider variety of material than he can possibly conceive of handling in a personal library."

—David Hamilton

NEEDS OF SOCIAL WORKERS

"The people who come to social workers . . . are seeking help, so that social workers and people involved in the social services do have the opportunity to influence change and guide decisions, and for that reason it is very important that they have access to information, and current information."

"In talking with social workers . . . it becomes evident that they are not really aware of the services that are available from libraries."

—Vivian Cazayoux

NEEDS OF CHILDREN

"This . . . being involved with real objects and materials and being able to role-play is a mode of acquiring information for children, and it's one that is almost totally ignored in our present . . . delivery of library services and materials to children."

—Diane G. Farrell

"In early days . . . most people grew up on farms or in small towns where most of realia was right there in their lives . . . . In that kind of situation, the provision of book materials would . . . widen people's world tremendously. They wouldn't themselves have ever traveled, but they could know about other times, other peoples, other cultures . . . . Now, when we have urban children who get a lot of stuff only through media, who have very little contact with most of the physical reality that humankind has known most of our time . . . you're suggesting . . . that we now give them the reality contact that in our urban society they're missing."

—Marcia J. Bates

NEEDS OF YOUNG ADULTS

"The reading level, the maturity level, the interest level of young adults is as vast and as broad as you can imagine. They can be extremely knowledgeable in a small field. I have had kids talk to me about three-quarter cams [and] milled heads. Now, how many of you know what a three-quarter cam [or a] milled head is? All I know is [that] it has something to do with a car. But they don't know what it's like to be a person. They don't know what their life style is. They're searching for it. A very great need there."

"Audio-visual needs, I think, percolate everywhere. Of any specific group we're dealing with today, perhaps this is the group more in tune to audio-visual needs, more responsive to them, more able to deal with them – and ready."

– Regina Minudri

NEEDS OF THE ELDERLY

"Aged people, as someone said, are covertly, if not overtly, . . . in a kind of running battle for survival. And there's not only a sort of physical survival, but also . . . there [is] a[n] even perhaps more serious survival battle for a kind of psychological identity. Some of the questions that these people debated* . . . very seriously are questions like 'Does the American society need its older citizens at all?' . . . . Well, when these kinds of things are seriously discussed, you begin to realize the dimension of the psychological battle, and the dimension of the image that older people suffer in the society."

"Increasingly, old people are feeling that they ought to be in a better position to speak for themselves and to determine what their own needs are."

– Genevieve M. Casey

NEEDS OF THE GEOGRAPHICALLY REMOTE

" . . . Although, as one man, deep in the hills of Appalachia, said to me, 'Remote from what?' "

– Ann P. Hayes

(Joseph Becker to Ann Hayes:) "It's obvious . . . that if we're going to stick with the current library model and try and play catch-up, we'll never make it. What do you see as the one or two things that should be done that would provide a giant leap forward in this situation?"

(Hayes, replying to Becker:) "First, I'd like to train that professional, multi-paraprofessional team. In the second place, I'd like them to be working very closely, both with the client group, and everybody else, on the most extreme needs, and I'm thinking in terms particularly of health service. People who don't know what to expect in a hospital will die, rather than go, even if it's a remediable disease."

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*Delegates to 1971 White House Conference on Aging.

NEEDS OF THE INSTITUTIONALIZED

"I've already outlined what the needs are – they're the same as [for] any human being: they're intensified. It requires person to person concern. You go to that person, where that person is. And if you think they will come to you as the first contact, forget it, this will not happen.

"Consider taking a male and a female, seventy-five years of age, who have been institutionalized for forty years of their lives. And take them to downtown Chicago and put them in front of one of the main entrances to Marshall Field. Suggest to them that they walk into that store and buy a hand towel. We would take this as something that would be quite easy to do. But if you had lived for forty years in an institution, and you were in a program that was restoring you to a point where you could function within society, this, I think, might be equivalent to scaling Mount Everest. The social skills which we can assume, and which we often do assume, are phenomenal for a great many of these people."

– Harris C. McClaskey

NEEDS OF THE HANDICAPPED

"I think we need a multi-modal, multi-sensory approach, rather than this one single concept of visual input . . . There are so many more experiences available to the mentally retarded and to the physically handicapped that aren't found in bound volumes, but are truly needs in terms of information dissemination . . . ."

"I see the role of the library as an agent in the area of leisure time and education and habilitation and as a resource center for the mentally retarded and the physically handicapped. Their environments are so much more restricted . . . . If we can provide them with resources to supplement their education, to pick up on their need for information beyond public education, to allow them to have a place that's similar to that of the 'normal' individual in our society, then I believe we'll have done something that will be very assistive and supportive."

"Bibliotherapy is another thing that I think has a potential of vast impact on not only the mentally retarded and the physically handicapped but a lot of other exceptional individuals – the mentally ill who are in the community, etc. . . . ."

– F. Vinton Smith

NEEDS OF MEXICAN-AMERICANS

"We are pressing for bilingual education."

"For the libraries there are not sufficient materials on . . . bilingual education – material written by Mexican-American men and women. We do not have enough material on personal identity – our heritage."

"I know two old men that are ninety-seven years old that fought with Pancho Villa and [are] living right now. And it would be an opportunity to record that on cassettes and store that."

"...[We need] to develop, to the highest potential, each individual. Let him make the choice of whether he partakes of the Anglo culture, goes back to the Mexican culture, tries to pick the best of them—whatever it may be."

—Manuel E. Velez

SERVICE SYSTEM MODELS

"I just wanted to comment on the model that you have in cooperative extension. I'd be willing to say the model has worked gloriously...in terms of many other efforts that we have. And my friends now in Michigan, who are attempting to move that model to the city and to work with the...information-disadvantaged in the city are finding it doesn't work that well at all. And they ask themselves the question, why doesn't it work.... What they seem to go back to is not your process...but the knowledge base. They would point to the fact that in agriculture you've had some lovely technological, scientific break-throughs. And you can really show the farmer how to put in a better kind of wheat, for example, and get very measurable...results. But when we start trying to help people to deal, let us say, with racial polarities, to deal with quality of life in the factory where people are murdering each other..., we don't have that kind of knowledge base. We don't know what to teach them. There's nothing wrong with the method; it's the content that appears to be the problem."

—Genevieve M. Casey

"I wonder if this county agent model that we've passed around isn't going to be applicable to almost all of these subgroups—that we're saying...we need a new framework for library services. We can no longer say, 'You come and we'll provide it if you come to the door.' We're now saying, 'Here it is and if you don't know about it, we'll bring it to you.'"

—F. Vinton Smith

"There is also a need for taking the materials...to the people. There is a great deal of institutional resistance, as you might imagine, with this [socially and economically deprived] group. This is a very new experience for them, so that there is a need to go where the people are."

—Edward B. Miller

"I would suggest that the library take on a role as a switching center and [also handle] the first cut of questions.... Probably various social agencies would be happy to have a lot of these commonly occurring questions taken off their back. And the library: we claim ourselves experts in organization of information; let's prove it by organizing that kind of information and being the best switching agency in the community."

—Marcia J. Bates

"I don't see, in very remote areas, the use of a library facility at all. Why not have an office in a warehouse, and have all the money possible thrown into outreach services . . . . If one twentieth or one fiftieth of your people can get to that facility, why keep it open?"

—Ann P. Hayes

TRAINING AND ORIENTATION OF THE LIBRARIAN

"The problem is not that there isn't enough information, but that there's much too much information . . . . This, I think, puts the librarian in a completely different kind of role than we have ever been willing to play . . . We are in the position then of having to . . . digest information, interpret, select from the broader information—and this is a brand-new role. And I guess that life is pushing us to that role, and a lot of us are pretty reluctant."

—Genevieve M. Casey

"One of the problems in the library literature, the deliberations at library conferences, is the tremendous emphasis on acquisition, processing, and storing of the information, and very little emphasis on how information can be used by businesses in problem solving."

—Ted Slate

"Coming to the limitations and inadequacies of service, I'm going to hit on a theme that's . . . been sounded already, that libraries tend to be primarily oriented towards books, and that this is a severe limitation in terms of the arts viewed in a broad way. In fact, it's been a cultural limitation, I think; we've tended to view the arts that are in some way transmittable in books, in printed form, as the higher arts, whereas the arts that exist in oral transmission primarily, what we might call the vernacular arts, have been very much downgraded. This is beginning to change. And one of the reasons it's beginning to change is the advent of various audio-visual technologies of transmission."

—David Hamilton

"A lot of library schools' offer courses in what they call children's and young people's services. Very few offer courses in young adult services per se. And you just can't put children's and young adult services in the same bag—because our techniques are different, our materials are different, our outlooks are different."

—Regina Minudri

"And finally, in order for all of these needs to be met, the most important thing is that there must be training, continuing education for library administrators and practicing librarians in the area of social issues, so that they can become aware of the personal and collective problems of the disadvantaged and the socially deprived. This is very important. We can set all kinds of priorities, all kinds of plans, but if the right staff isn't there with the right attitude about the disadvantaged, it just won't work."

—Edward B. Miller

"Lets talk about people and what . . . people need. My experience as a librarian is that we do develop turf, we do develop types of libraries and specific areas, and very often we're talking about one portion of a person's information needs. And I hope that . . . we will be concerned with all [needs]."

—Harris C. McClaskey

ROLE OF THE LIBRARY

Editors' note: After Ms. Minudri's presentation, a lively discussion developed concerning the proper limits and character of library and information services. A few particularly interesting passages in the conversation have been transcribed verbatim and are given here, with only slight editing for clarity.

Slate. Are we basically saying . . . I don't know the answer to the question . . . that the libraries will pick up where the parents have fallen down? That with the inability of the parents to communicate, perhaps that's where the library's involvement with the hotline begins? That where there's no place to play the drum at home, the library picks up the slack? I don't know. Is this society changing to such a point that the library now has a different requirement?

Farrell. I would agree . . . that parents either don't have the information to give to their children, or . . . refuse to give it to their children. Do children and young people have a right to have information that their parents would deny them?

Hayes. It's more developmental, too. The parent can't penetrate the peer structure the way an institution can. They're too near; there's too much of the untying of the apron strings right then. It's a developmental task.

Minudri. There's also something to be said about the non-clout . . . the neutral ground that we [the libraries] have that a school does not have.

Smith. But it could. It's just that we've got to break the tie of what you and I think of as a school library, because **our** school libraries do just what you said the public library ought to do. There's this freedom and this interchange and . . . it's a good, happy, healthy, positive experience, instead of "Aw, I gotta go to the library". . . . Because that is tearing down any kind of an image of information services, and that's why maybe the adults who need information services won't go and seek them, because of the bad taste that they have in their mouth from previous experiences in general.

Paisley. I agree with all the needs that I've heard expressed in the past two presentations, but I think there is a tendency, when the deficiency is very great, for conscientious people to say, "Well, let's take this over, and let's take that over," and I think I've heard here that what we usually view as a system of knowledge resources should expand greatly and become a number of other systems, such as a system for musical self-expression or a system for, not necessarily learning activities, but just children's activities. It may be that the library in the future is part of a community resources center, in which you cannot distinguish between what's happening in one room and what's happening in another room—but perhaps for policy planning for libraries, at least in the next couple of decades, we need to remember that knowledge resources are at the heart of this particular social system and that, if too much of the resources are tapped for greatly divergent purposes, then the knowledge resources provision will probably suffer.

Minudri. I don't think so.

Hayes. But you're only saying the cognitive knowledge resources, not the affective knowledge resources...

Paisley. I would define knowledge resources quite broadly and still feel that I've heard two conscientious people say that the library should be all things to fill deficiencies.

Downey. I agree fully with Bill [Paisley].

Cuadra. That's what Ted's [Slate] original question was about. Do we *move in and fill every vacuum?*

Downey. I don't think the library necessarily is the only place. It's one cog in the whole system of knowledge resources and, if we consider that the library has to do everything, then it'll do nothing or little that's useful.

Smith. But on the other hand, if it isn't at least a viable situation—I don't advocate the library taking over the role of the parents or the school or anyplace else—but if, in their function, they are so removed from compatibility with these kinds of things, then they aren't going to serve any function. So maybe somewhere in between there's an area [where] they can be functional.

CHAPTER 5

The Conference, Part II: Discussions of the Working Groups

This chapter consists of a slightly edited and occasionally paraphrased transcription of the Chairperson's charge to the three working groups on the second day of the conference and of the reports from each group by group chairpeople. The discussions following the group reports have not been transcribed, but the editors have included brief notations of important points made by the participants based on tapes of the conference.

The last part of the day's deliberations consisted of detailed discussions of the format for the needs-description matrix (see report on first group below) and presentations by members of the contents of their matrices. Since the discussions are largely redundant with the contents of chapter IV, they are not reported here.

I. Chairperson's Charge to the Three Groups*

Cuadra. What we did yesterday in our wall-to-wall presentations and discussions was to share various amounts of factual data, frames of reference, and outright prejudices. I think we've also shared with each other some notions about how to think about and express information needs of the groups that each of you either represents or has thought about and talked about.

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*Although much of the material in this chapter is verbatim, quotation marks and ellipses are omitted as a stylistic convenience.

We are now ready, I think, for the really hard work – which is to try to harness the ideas that each of you has expressed and make them converge into some conclusions that will be of value to the Commission.

The mechanism we have chosen to try to make this convergence come about is to form several working groups. The first group, on user needs methodology, is charged with helping us identify what library and information needs are and how to express them. I am sure that all of you suffered some pain yesterday because we all stated information needs in many different ways. In some instances, there was a nice, crisp list that had to do with kinds of content and kinds of media and kinds of delivery; in other instances, the papers focussed on the characteristics of the group itself and one had to tease out what the needs were. There is no reason to feel bad about the diversity. The fact is that there is no common framework into which all of you can fit your information or knowledge. The purpose of the first working group is to try to move toward building such a framework.

The second working group needs to address questions of priorities of service. How do we decide where finite resources ought to be spent for library and information services? Any given group can use some resources that could be also used for some other group and the question is, "Where should we put the money?" Are there any ground rules at all? Are there any guidelines or principles that would help the Commission, help the Congress, help the President to decide how to spend money?

We know that no small group – including the group here today – can really be totally representative of the community of users, so we are not really asking you to make definitive statements, but we do want you to help highlight the issues. To the extent that you can enunciate principles that we can discuss later, we'd like you to do so.

The third working group will be concerned with the impact of future trends in society on information needs, use, and delivery. Here we are talking about another kind of needs – needs that people do not know they will have because they have not thought that much about how society is going to change. I think that this group will be concentrating, not on the needs of particular groups, but on needs in general – on changes in library and information service needs that will certainly come about as a result of changes in society that can already be perceived.

I would like to give one word of suggestion to the third group. Since you are not dealing with certainty, but with things that may or may not happen, I would like to make sure that you don't spend too much time in that group debating on what the trends will be, unless there is an impact on information. If it doesn't really matter whether A or B will happen, from the standpoint of information needs, it is not worth investing the time in discussion.

II. First Working Group: Model for Information Needs Description

The working group concerned with information needs description was chaired by William Paisley.

CHAIRPERSON'S SUMMARY

Paisley. I won't be able to do justice to all of the separate thoughts of the members of the group and the reservations that were sometimes expressed, so I will stop early in my summary so that the other people in the first work group can express their points of view.

We accepted a rather restrictive charge. We weren't happy with the fact that we were going to compartmentalize needs out of the content of the society and the expectations of the people for what information services can deliver, but we accepted the charge with an occasional digression. We first explored very briefly the question of differentiating groups within our overall constituencies. In the end, we did not arrive at the consensus that it was necessary or practical to think of group x_1, x_2, x_3 and proceed with a prescription of needs for each of those subgroups, so that topic is in abeyance.

We then accepted from the Chairman of the Conference some thoughts that he had put down on paper. It was a five-dimensional system for expressing information needs in a way that would allow the several formats that we've adopted to be standardized to some extent. His format could be used in consolidating the reports of this conference and moving them up to policymakers. The five-dimensional system is largely what we see on the board now because, although we talked it over and modified it to some extent, we felt that basically it was a good plan and could be used to express needs of such divergent groups as physicians and preschoolers.

So, the needs are expressed in terms of:

(1) the type of information;

(2) the purpose that the information serves to the user;

(3) the response speed of the information service that is necessary so that the user will not tune out and either forget about it or go somewhere else;

(4) the response mode, which could be expressed either narrowly, in terms of media such as print or audiovisual media, or more broadly as the distinction between a facility like a library versus an outreach program versus some of the service options that new technology will present in growing numbers in the future; and

(5) the priority that would be assigned by some appropriate representative person or body to this entire need expression.

The first four dimensions are, in a sense, indivisible. The information need is not just in type of information. Rather it is in all four dimensions. A priority could be assigned to all four relative to the other service obligations of the information service. We thought that it would probably be a two-step process in which information experts like us try to conjecture the need patterns for a constituency and come within a certain number of percentage points of being correct. But we have not done justice to the entire conceptual framework until we use it with the users directly and collect data from our constituencies to fill in each of these categories.

Our group also thought that a particular constituency might place unusual stress on one of these dimensions. For example, a group of professionals who are dealing with crisis intervention would certainly place great importance on response speed. Examples range from the physician who has a poison-control problem to the suicide prevention center, and so on. For one constituency, then, response speed might be paramount. We could even carry that over to Regina's [Minudri] point that if you don't supply "postchildren" or "preadults" with information quickly, they tune out, so not supplying them with the information they need is just as much a failure of the system as not supplying physicians with poison-control information. For handicapped users of the information service, the response mode might be extremely important—the blind with their special media needs, the invalids with their need for an outreach program—so we thought that, in the process of trying to express an information need in terms of these four dimensions, we might sometimes have to say, "This is the crucial aspect of this otherwise indivisible need." That was the only embellishment that occurred to us.

Our Chairman had suggested some categories for prestructuring things like purposes, and I think we demolished his categories, so reporting out from the first work group, I have to say that we don't have some nice little boxes of purposes that we can really recommend to you. There are such evident purposes as self-enrichment, economic advancement, and specific problem solution; no doubt you, for your own field, would be able to increase that list. But, as much as we would like to prestructure it in the interest of standardization, I don't think we can do so.

Let me see if I can mention just a few of the reservations and qualifications that were expressed about structuring needs descriptions in this way. First of all, Harris McClaskey said that it bothered him to think of formulas in which these expressions become too pat, and he said that it is important to view the whole person as a source of the information needs. That was one major theme. And then I think it was Don Black who said that he was concerned that the "purpose" dimension would become associated in the minds of policymakers with the idea of worthwhile purposes versus insignificant purposes. He feared that economic advancement would always carry the day over self-enrichment, and he admonished us not to allow the purpose dimension to become an implicit prioritizing dimension—not to give up without a fight. Joe Becker suggested to us several questions that would allow us to test the viability of this kind of conceptual framework. We will bring these questions up as the agenda for discussion after lunch. Let me open it up now to the other members of the group.

DISCUSSION RELATED TO REPORT OF FIRST WORKING GROUP*

MINUDRI (and **MCCLASKEY**). We want not only to work with the goal of user satisfaction, but also to build in feedback and evaluation so that we can be constantly improving the service. We mustn't set up a system and, just because it works, let it go. The system must be constantly reworked on the basis of user feedback.

In addition, we want to identify the people we are not serving, find out why they are not using the system and then design it to attract them. We want to make it more satisfying to the individual. We are really very concerned with the individual.

HAYES. Maybe there ought to be another column up there called "Possible Institution." You need to consider the whole context of information delivery. The library should see itself as part of, or maybe the leader in, an interinstitutional information system.

CUADRA. We are concerned not only with the "users" but with the much larger population of people who are not users, so we are really concerned here with citizen information needs more than we are with "users."

CASEY. It seems to me that another point of great interest is: Where are those people getting their information now, if not from the library, and to what degree are their present sources satisfactory? I think we could learn a lot from that.

FRIST. Well, beyond that, what if the information doesn't exist at all? That's always a possibility, you know.

SLATE. This concept of "user satisfaction" has its tricky side. What about those times when a user is quite satisfied with what you give him, but you know there is something else, which may take a little longer to get, that is really much better? In addition to giving the user what he thinks he wants, the information specialist is also in the position of evaluating what is satisfactory for him. Some of these users have no or almost no experience with libraries. They don't really know what to expect. We need to use our expertise in judging the satisfactoriness of materials, too.

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* *Editors' note:* Comments of conference participants reported in this discussion section are not verbatim transcriptions but, rather, are editor's paraphrased summaries of essential points. At times whole sections of discussion have been left out. Thus, speakers comments should not be viewed as successive statements in a conversation.

PAISLEY. But maybe that's just the kind of shallow response he wants in that particular instance.

SLATE. I think we know whether we are overloading them or not. I still say that, even if the user is satisfied, he may not be well-served, and we as information specialists need to watch for that.

III. Second Working Group: Setting National Priorities

The working group on service priorities was chaired by Genevieve M. Casey and Charles H. Stevens. Both summarized the group's selected priorities at different points in the presentation. The report below is a merged and edited version of their two descriptions.

CHAIRPERSONS' SUMMARY

We struggled at first with making the distinction between actually developing a list of priorities on the one hand and setting up a **framework** for setting priorities on the other. It was the latter that we have been asked to do.

We came up with a list of four priorities, or elements in the setting of priorities. We set them before you, recognizing that there are some very serious considerations that will have to come up for discussion because they are, in a sense, revolutionary.

1. The first priority states that if the Commission has already established the philosophical position that equality of access for the individual is a goal to be sought, then preference should be given to designing systems for those who are presently **less well served** than others. Decisions on actions should be based on whether those who are at present less well served or not served at all will, in some way, benefit from the new system or service.

Included in the category "less well served" are those individuals or segments of the population that may be socially, geographically, economically, or otherwise remote, such as the aged, the institutionalized, the poor, the illiterate, and ethnic groups.

We also include those users of current specialized systems, such as the biomedical system, who are less well served within the system. There seemed to be quite a lot of evidence yesterday that the specialized and fairly sophisticated and highly developed scientific systems tend to be focused on the elite, on those at the top of the profession, and not on the other workers within the profession. In sum, we talked about the less well served among both the general population and among specialized groups.

2. Priority should be given, in terms of evaluation of projects, to those systems and services that reflect and deal with major national concerns, such as polarization and the need to develop national unity, or the internal stresses within the society, whether those stresses are a result of race relations, economic conditions, or other factors. Priority should be given to those systems and services that deal with national needs in regard to the quality of life and the individual's ability to have social control over his own well-being and his upward mobility, if he desires it, whether that upward mobility is intellectual or social or economic.

3. We need information systems that are more heavily interpretive, more selective and more personalized in their delivery of information. We felt that this kind of need ought to be recognized in the systems to which the Commission gives priority.

4. We felt that the Commission ought to give some priority to a consideration of appropriate levels of responsibility in the provision of information systems. Under that was a national level, a regional level, a local level, and the interrelationship between them. Furthermore, we were interested in the coordination of information activity between many different kinds of disciplines, professions, organizations, and agencies—including, as appropriate, libraries.

DISCUSSION RELATED TO REPORT OF SECOND WORKING GROUP*

Stevens. Let me mention some additional points that were brought out in the discussion of the group. There was agreement that there is now no adequate service anywhere. The reports yesterday seemed to show that. Further, priorities in information system design should be in terms of the social impact of the proposed system and the demonstrable value of the information for social needs. This includes not only printed but also nonbook materials. Another problem is the need to obtain better people and better selected people to work in the field.

Another very sticky issue was whether we should try to help the most people or the most influential people. Presumably, the latter would be in a position to affect the lives of many others, but we preferred helping the former; there was some doubt whether the influential actually would help others.[2]

Hayes. These aren't priorities but rather a framework for coming up with priorities.

Farrell. Are you saying that No. 2, social needs, is the content of what you deliver to the groups of people described in No. 1, by methods developed in No. 3?

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[2] Editors' note: Some questions arose here about the distinction between setting priorities and developing a framework for the setting of priorities.

CUADRA. Perhaps we could view this as a four-faceted evaluation scheme: How does something meet criteria 1, 2, 3, and 4?

CUADRA. What about survival, a word used so often yesterday? I haven't heard mention of it in your report.

HAYES. In a sense, the whole thing, No. 1 to 4, is about survival.

PAISLEY. You could say that the matter of information for survival is implicit in No. 1. That's why the unserved or poorly served are emphasized. Survival information is what they often need.

HAYES. This is a catch-up time, a time where we take what we do know and give that information to those who need it. This is a time where we downplay information for research, not because research is bad—it isn't—but because we have to choose priorities and when you choose priorities something has to be lower than something else. We should note also that there are some groups among the currently well served that have other potential information sources to draw upon. So if the quality of service to them degrades slightly, they can draw upon help elsewhere.

PARKER. I disagree on this ideal of national unity. I want to see pluralism and respect for differences.

HAYES. But there's a difference between pluralism and polarization. It's the latter we want to eliminate.

PARKER. Well, maybe you should say that explicitly.

VELEZ. The main point was that we wanted to emphasize social aspects in our priorities, rather than improving the gross national product or things like that.

CASEY. We want to get at fundamental social needs, to focus on the quality of life rather than economic expansion, to do something about the polarity in society, the alienation of the individual and his feeling of need for more control over his own life.

PARKER. One thing that's very important here is that the nonserved groups should get a chance to determine their own needs and services. The Canadian Government asked the heads of Indian groups in Ontario what their first priority was in development. They replied that it was to get a communication link among their villages so they could talk and work together. Then the Government asked them what their second priority was. The chiefs answered, "We're not going to tell you. Because if we do then you'll decide what to give us, not us. Fulfill our first priority, then we'll tell you what the second one is."

BATES. With regard to this matter of the quality of life, it seems to me that the first step we must take is simply to become aware of how bad it is. We are not aware of the violence we do to our emotional and spiritual needs, because we compensate with physical and economic comforts. We need to orient ourselves more to this part of life.

BRODMAN. We're failing to look at a fundamental political question here: "How do we get the money? Can we get funding from the elite if we want to serve the nonelite?" We should consider several possible approaches; the ideal one where we push for funding to serve the nonelite: the pragmatic approach where we serve the elite, since they can give us more money; or perhaps a staged plan, where we move from benefits primarily for the elite toward more and more for the nonelite.

CUADRA. I'm concerned about what we really mean by equal access. How do we implement it? Some people are very difficult to reach. They're geographically remote or else they wouldn't be caught dead with a piece of information. To bring them in will be relatively very expensive. Should we spend equal amounts of money, or more money, for them?

PARKER. We do as in affirmative action programs: We spend more money on them.

CUADRA. Let me remind you of the dialog that Estelle [Brodman] and Bill [Paisley] had this morning. It was pointed out that physicians have chosen a work style that requires that someone distill and package information for them in a way that requires minimal investment of their own time. Estelle's feeling was that, if they want it that way, we should adapt the system to serve them. That means you spend more money to adapt to that user. How much should be spent? How do you decide whether to adapt to this kind of preference on the part of users? Do you go until both kinds of groups have equal smiles on their faces?

HAYES. No. Our group was saying that this is an unmet need, but it's not as important as the need of the medical technician who isn't getting much of any service now. We want to serve the nonelite groups in the specialized groups.

MCCLASKEY. There are often libraries quite close to a citizen that he cannot use. Large segments of the population are denied access to certain kinds of libraries or can get access only through interlibrary loan. Let's remove some of these barriers.

CASEY. I'd like to refer to Carlos' [Cuadra] questions on what is equal access and how we measure equal access. For the aged, let me give just a couple of needs as examples. They need information on community resources and on information that's conducive to improving their self-image. It wouldn't be too difficult to assess whether all the aged are getting access to this kind of information throughout the country and whether the available resources are being used.

PAISLEY. But wasn't something critical left out? You didn't say what this particular group's differential share of the resources would be.

DOWNEY. We can do it the same way that affirmative action programs are carried out, for example, for hiring women in universities.

PAISLEY. Let me say first that you shouldn't have picked a failure for your example. But I think there is a fairly easy parity that can be established in affirmative-action hiring programs. It is not the same case with the provision of information services.

Smith. This is a difficult question to address because, for example, it costs more money to reach the average physically handicapped person than someone in some other group. Instead of saying we will give dollars to each group, let us set a certain minimum standard or level of service to specified groups and then spend what we have to, to meet those standards.

Brodman. Don't forget that there are two ways to equalize service. You can also bring the well served down to the level of the less well served.

Casey. Can the Commission in fact get that specific? Even if new Federal legislation arises out of this, won't it still come back to a matter of local initiative?

Parker. There may never be equal access to information as long as we subsidize the producers and distributors of information, instead of the users. This sounds kind of wild, but maybe we should have a national library stamp program. That would put the libraries instantly on the spot to provide services that are interesting and relevant and useful enough for the people to spend their stamp at the library. If the library subsidy were given to the people in the form of stamps, then if the library didn t have a service that interested them, they wouldn't spend the stamps. This would also solve our feedback problem right away.

Paisley. I'd like to hear from the third group now. If, for example, we were worried about getting salt distributed to everyone in the country, we could quite easily put it out in depots available to everyone If information is going to become another cheap, easy-to-get commodity like salt, in the future, then maybe all our worries about setting priorities will subside.

IV. Third Working Group: Impact of Future Trends in Society

The working group on future trends was chaired by Edwin B. Parker.

CHAIRPERSON'S SUMMARY

Parker. Let me summarize the discussion in six points, not necessarily in order of priority:

1. First, there are many changes going on in media, in publishing methods and, most significantly, changes in video technology. The expectation is that in the near future video cassettes, video discs, video tapes, video and cable television, and video distributed by satellite are going to permeate through the society much more than they

have now. Video technology of the late seventies will function in the same way as did long-playing records in the forties. It will change the media environment, and the demand for it will grow tremendously.

2. We talked about the problem of repersonalization or the need for individualized and personalized kinds of information service, and we considered it from a couple of different standpoints. Sometimes when we talked about personalized service, we were referring to something that is responsive to emotional needs. At other times, we were talking about cognitive information needs but with the service tailored to the individual. Sometimes the information can be provided directly by people and other times by technology—whether that technology is a book, a video cassette, or a computer system.

There is another dimension of whether something is personalized or not, and that has to do with whether it is tailored to the individual or whether it is bureaucratized. You can have interpersonal human systems that are bureaucratized—that is, they have the effect of dealing with people as though they were machines. Some of our school systems tend to be bureaucratized interpersonal systems that are a long way from being individualized or personalized, while some of the machine systems—for example, computer-aided instruction, in some cases—may be quite personalized and individualized. So there are two different dimensions to look at: human versus technological service, and personalized versus bureaucratized service.

There is an interesting dilemma here and that is the question of personalization and individualization, on the one hand, versus cost and efficiency considerations on the other. We may say we need to have an individualized service for everyone, preferably delivered by a personal provider, but such a service may be impractical in terms of costs and efficiency. We have to look at the latter too.

3. One label for this area would be "Building Information Environments." Much of the time we have talked about what kind of information people need, when it may be that the key question is: What kind of filtering system or access mechanism or transmission system is needed? If you were to devise an information system or service in which people could find out what they want, when they need it, rather than simply stating that a particular group of people needs a certain commodity of information, such an approach might lead us to pay more attention to filtering systems or access systems. It's these latter systems that might facilitate people's searching.

4. We thought that there was a very strong need for what we called "community networking," or coordination of existing systems. This is not just the interlibrary loan-type of network connection, but the connection between the hotline and

the library, the connection between the service clubs or professional organizations in the community, and so on. The library is not the only institution in the community that is concerned with information. There needs to be some kind of coordination or perhaps a one-stop information referral service.

5. We talked about the social trends or demands in education – the growing push for alternate educational systems, for open universities, and for other kinds of educational opportunities that are different from what we have had before. It was interesting to us that the pressure for an alternate educational system seems to be for a system that does very much what libraries are suppose to do, namely, to provide information to people when they want it, as opposed to information flow controlled from a central authority that determines timing, pacing, and content. So it may be that the whole pressure for an alternate educational system exactly suits the preexisting institution known as the library.

6. This point is concerned with a different kind of thing. It goes into one of the problems of meeting the needs stated above, specifically, the matter of training. Where are you going to find and how are you going to train the kind of personnel to be able to develop and operate these new and different kinds of information systems? At this point in our discussion the coffeebreak came, and we didn't really get into training needs, but we put it on our list.

DISCUSSION RELATED TO REPORT OF THIRD WORKING GROUP*

Bates. In talking of alternate education, I think it is important to mention how strong the desire is now for alternatives in general and for diversity in one's life in a lot of senses: different jobs at different times of one's life, and so forth.

Brodman. In our definition of filters, we were also thinking of the term, I believe, in the sense that there is an information overload in most cases. Choosing or filtering out just that information which is pertinent to the needs of the individual is a necessary element in modern information systems.

Minudri. Did you consider the combination of public agencies in the same general delivery area, such as museums, recreation centers, etc?

Parker. We didn't prejudge whether it had to be all in any building at all.

Farrell. We were thinking in terms of coordinating all of these sources of information somehow, but we hadn't got to the point of physically putting them together in one place. But, yes, we do want to draw upon all the information resources in the community, whether they are individuals or clubs or groups or organizations. We

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want to provide some way of getting access to all the sources of information.

Parker. Let me come back to Bill's [Paisley] point about changes in unit costs of access to information. I don't think that, as long as we are talking within the framework of a particular institution, with a particular technology and a particular staff of people, there are going to be noticeable changes in the unit costs of access. If your technology is books and your delivery system is people handing out books, you can make some minor adjustments in costs, but essentially the institutional framework and the technology you are using determine the cost of access to information. The cost of access to information in a book today is much, much lower than the costs in the days when technology depended on scribes and people copying out of books by hand.

If we are now talking about changes in information technology that will permit lower unit costs for access to information—whether it is on video storage, computer storage, transmitted by telephone lines or cable television or whatever—if we are talking about changes in the total information environment, such that the unit costs of accessing information can be less than in the present library-book kind of medium, then we presumably will have the same kind of information effect in the society as the introduction of printing did. The introduction of printing led to the development of literacy and led to diffusion of information through the society. Much, much more was spent on information in society after printing than before, as a result of the lowering of those unit costs.

In order to take advantage of unit-cost savings in an information system, you may have to change the scale of operation. If you tried to put in a computerized information system for a single library, you probably couldn't do it economically; it would be just too expensive. But with Library of Congress information on a national computer network, online, for every library to have access to, the unit cost for each individual search might be much, much less.

CHAPTER 6

Analysis of the User Needs Descriptions

Part I of the conference consisted of the individual presentations of the papers by Parker and Bates and the 16 papers by conference participants representing as many user groups in the population. The 16 user-group papers, which comprise chapter 4 of this book, describe the groups in terms of 5 aspects: Characteristics of group, rationale for serving group, needs for library and information service, adequacies and deficiencies of existing services, and strategies for fulfilling unmet needs. This dense body of material describing many particular characteristics, needs, services, and strategies does not lend itself easily to a brief summary. We will attempt to provide an overview of the needs descriptions in another way.

In the second part of the conference (as discussed in the previous chapter), one of the working groups proposed that the information needs of each group be described by that group's representative in terms of a matrix of needs arrayed against facets of need. The collected set of matrices would thus represent, in tabular form, the total set of described needs of the groups covered by the conference. It is upon this matrix set that the summary in this chapter is based. Along with providing a much more convenient source from which to draw summary statements, the matrix set is a ready base for analysis of the various matrix categories across user groups.

I. Structure of Clientele Groups and Needs

Some conference participants had reservations about translating needs into formulalike representations. For this or other reasons, only 12 of the 16 participants submitted matrices with the final version of their papers. Analysis is thus restricted to these 12. The list below gives the name of the groups, followed (in parentheses) by the name of the author of the paper on that group. (The list is divided into two sections for reasons to be explained shortly.) Papers that contain a matrix have the letter "m" following the author's name.

Scientists and technologists (Paisley) m
Agricultural community (Frist)
Business community (Slate)
Labor (Downey) m
Biomedical community (Brodman) m
Creative and performing artists (Hamilton) m
Social service personnel (Cazayoux) m

Women, homemakers, and parents (Bates) m
Children (Farrell) m
Young adults and students (Minudri) m
Aged (Casey) m
Geographically remote (Hayes) m
Economically and socially deprived (Miller) m
Institutionalized (McClaskey)
Mentally and physically handicapped (Smith) m
Mexican-Americans (Velez)

Each matrix was to present the specific needs of the group arrayed against five facets of need description:

- Type of information;
- purpose to user of the information;
- desirable response speed;
- desirable delivery mode; and
- relative priority of that type of information among the others needed by the group.

Each facet of need, along with the responses on that facet in the 12 matrices, will be considered in the next sections.

In order to make this cross-group analysis more meaningful, the 16 groups were divided into 2 categories: (1) Occupational groups, and (2) social and demographic groups. These correspond to the two sublists of groups above. (The Bates paper on women, homemakers, and parents is not easy to categorize, since it covers one demographic group—women—and two quasi-occupational groups—homemakers and parents.)

Needs of the occupational groups were described by the conference participants largely in terms of work-related information needs. Their personal needs were assumed to be covered elsewhere in the appropriate category. On the other hand, groups distinguishable through their social and demographic characteristics had their needs described largely in terms of those characteristics; work was generally not discussed.

The original set of groups to be covered at the conference was developed along pragmatic lines.

Bourne et al.* selected groups largely on the basis of "literary warrant"; that is, they described groups that were discussed, to a greater or lesser extent, in the literature. The final shaping of the set was done by the Commission's Committee on Needs of Users. It should be stressed, at this point, that clear guidelines for selecting appropriate information-needing subgroups of the population do not yet exist. Consequently, the layout of groups in table 6–1 may be of some interest. A matrix of work level against content area of work is used to contain the various occupational groups covered by the conference. The area that a group covers in the diagram is related to the breadth of the subject area covered, not to the number of people working in that area.

From the use of this format, it appears that the conference gave reasonably good coverage to occupational groups, with a few exceptions. Humanities researchers and professionals other than creative and performing artists were left out – for example, philosophers, historians, linguists, and translators. With the coverage of social workers and physicians in the context of the biomedical field, we might expect other professions to be included too. (Education was to have been covered in an additional paper, but the paper was not presented.) Lawyers, legislators, and government personnel need information too (a lack noted at the conference), as do journalists and other communications specialists. Downey, in his paper on labor, had a vast area to cover. He restricted it by writing only on labor union members. Great numbers of white-collar workers who do not belong to unions, along with some of the worst-off blue-collar workers, such as domestics, were thus left out.

Both horizontal and vertical coverage can be seen in figure 6 – 1. For example, Paisley's science and technology paper covers many subject areas, while Frist's paper on agriculture covers many work levels.

Overlap problems and non-coverage are also apparent. In chapter 7, a layout for occupational groups will be suggested that eliminates these problems.

With respect to the social and demographic variable groups, each of these can be seen as varying, in one or two aspects, from a norm. That norm is the "WASP" – a white, male, middle class, healthy, "normal" adult, aged 21–65 years. The image of such a person, possibly alternating with that of white-woman-as-housewife, probably hovered in the back of the minds of the researchers who produced the many studies on the needs of the (largely undifferentiated) public over the last 30 or 40 years.

The conference, of course, was asked to look at specific subgroups of the population. But it is interesting to note that the social and demographic subgroups it exam-

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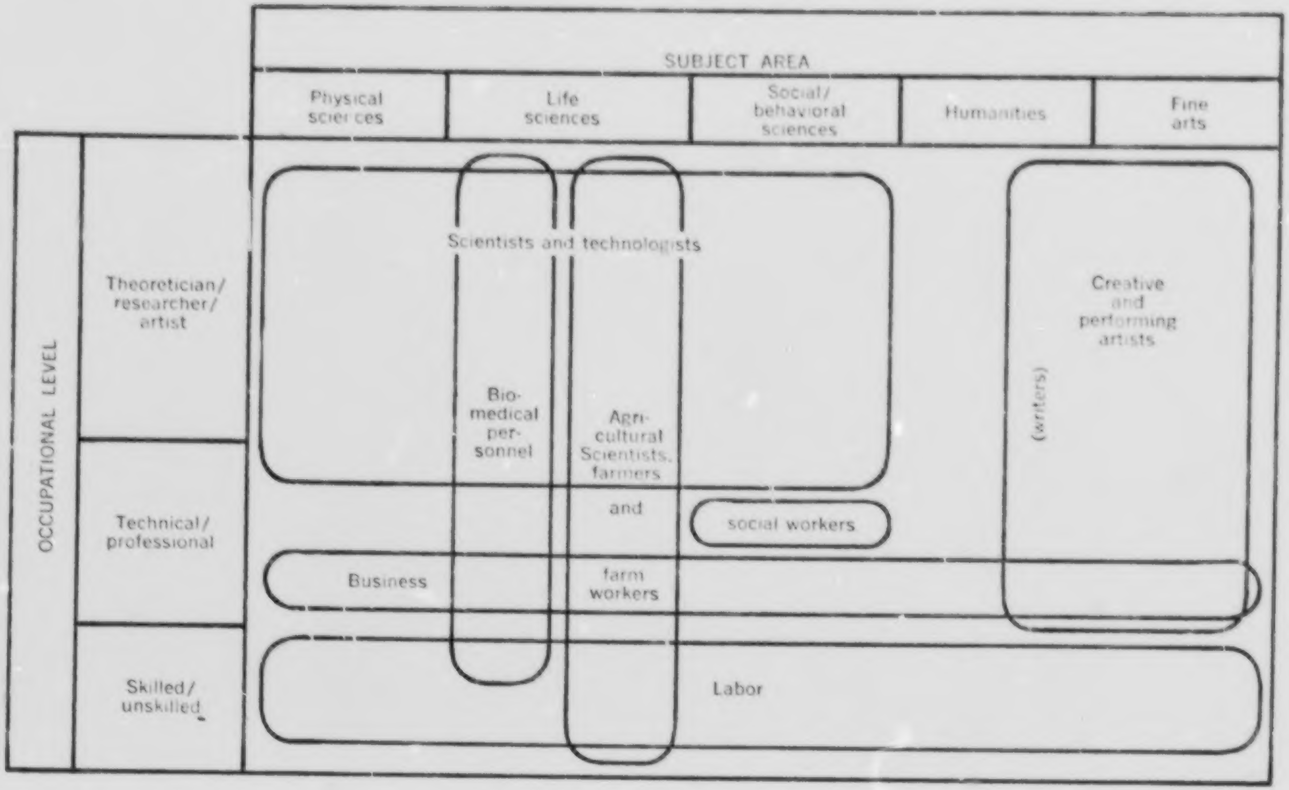
*Bourne, Charles P., et al. "**Preliminary Investigation of Present and Potential Library and Information Service Needs.**" Prepared for the U.S. National Commission on Libraries and Information Science. Berkeley, Calif.: Institute of Library Research, University of California, February 1973. ED 073 786.

Figure 6-1 Layout of Conference Occupational Categories


SUBJECT AREA
Physical sciences
Life sciences
Social/ behavioral sciences
Humanities
Fine arts
OCCUPATIONAL LEVEL
Theoretician/ researcher/ artist
Technical/ professional
Skilled/ unskilled
Scientists and technologists
Bio- medical per- sonnel
Agri- cultural Scientists, farmers and farm workers
social workers
Creative and performing artists
(writers)
Business
Labor

ined could all be characterized as varying from this norm and could all be seen as handicapped or "inferior" (in the sense of lacking equal opportunity) in some way relative to the norm. The handicapped and institutionalized have the scope of their behavior and life options obviously limited. The geographically remote, the economically and socially deprived, and the culturally isolated all suffer in some respects, relative to the broader society. The age minorities – children, young adults (teenagers), and the aged, particularly the latter – all feel some societal discrimination. Finally, sex discrimination is experienced by women. Thus, the social and demographic groups considered at the conference all suffer in some way in their general life experience from the characteristic(s) defining them. Not surprisingly, therefore, comments were frequently made to the effect that they were not being served as well by libraries as is the norm group.

II. Analysis of the User Needs Matrices

TYPE OF NEED AND PURPOSE TO USER

Having categorized the subgroups, let us now examine the needs matrices. In some descriptions, the type of need and the purpose of the user tended to blend together, so these will be summarized together. Any generalizations must necessarily be at a high level, since the modes of describing needs varied considerably. There were only five matrices available among the occupational groups, and this limits what can be said about them.

There appear to be three common threads of information need in the groups: The need for creative stimulus, the need for technical information on an ongoing basis to perform a job, and the need for career advancement information.

In relation to the three levels of occupation shown earlier in figure 6 – 1, the following generalizations can be suggested about the three areas of job-related information:

- It is mostly on the theoretician level where creative stimulus is needed.
- It is mostly on the theoretician and the technical/professional level where technical information is needed.
- Career-advancement information is needed on all three levels (i.e., including skilled/unskilled).

When we turn to the seven matrices of the social and demographic groups and try to summarize their needs, we are struck by the predominance of the need for life information. A grand summary can be made this way: The life information needs of these groups range from sheer survival to general life maintenance to self-enrichment and growth. In the **survival** category is to be found information needed in relation to acute physical and emotional crises. The crises will not be enumerated here; rather, let it be said that such crises can arise in practically any of the areas described in the other two categories to follow.

In the **general life maintenance** area can be included fundamentals of food, clothing, jobs, housing, hygiene, physical safety, and social and emotional integration, including parent-child skills. In addition, in this middle category we can add a series of special cases—particular needs that groups have with information components. These needs can generally be summed up in a word or two: For children the word is "developmental"; for the handicapped and institutionalized, it is "habilitative." The aged need a continued sense of self-worth; ethnic minorities (or culturally isolated), and women need pride in their heritage. The economically and socially deprived have a complex of needs that can be described as protection from exploitation, facilitation of opportunities, and the instilling of hope.

In the **self-enrichment and growth** category we find information needs relating to recreation and leisure, education, and self-actualization.

If we accept the viewpoints expressed in the seven papers, we are forced to question the commonly held view of the public library as a place to go for strictly factual and/or recreational information.

DESIRABLE RESPONSE SPEED

The third area of the needs-description matrix concerns desirable response speed. Looking first at the occupational groups, we found that the variation in suggested response speeds tended to be greater between conference participants than within any one participant's responses. Among the five occupational group matrices, two groups' needs were described as requiring response times of mostly between 4 hours and 1 day (Downey and Cazayoux); another group, as mostly 1 day to 1 week or 1 day to 1 month (Hamilton); and a fourth group, as mostly 1-month responses (Paisley). The fifth group had mixed times (Brodman).

Two hypotheses come to mind:

(1) There are intrinsic marked differences in needed response times among various groups. Perhaps the division is between theoreticians and technical/professional types (practitioners). For example, Brodman suggested that biomedical practitioners need faster response times (from 1 to 2 days) than do biomedical researchers and theoreticians (from 1 day to 2 weeks). On the other hand, Hamilton, who also considered both theoreticians and practitioners in the context of the creative and performing arts, suggested faster service for practitioners on only some needs.

(2) The conference participants had different mind sets relating to

urgency of need; that is, what one person defined as "urgent" was seen as needing faster solution than did an "urgent" need in another person's definition. Paisley's view that scientists can often wait a month for information is difficult to reconcile with the rapid response-time requirements attributed to some of the other groups, especially since many scientists work on grants and contracts requiring adherence to schedules. Perhaps he assumes more patience on researchers' part or more difficulty in need fulfillment than the other conference participants assume with their occupational groups.

While the conference data do not permit us to confirm either hypothesis, it seems reasonable to believe that both are partly correct: there probably are some real average differences in needed response time among the various groups, and at least some of the large differences noted among the five matrices stem from the different mind sets of the conference participants.

No clear-cut average differences in response times were evident in the matrices for the social and demographic groups. A table was compiled, summarizing the total number of 4-hour, 1-day, 1-week, etc., needs listed across the various social and demographic groups. The results may be misleading, however, since the number of need categories described by each participant varied widely. For example, Hayes listed 20 categories, while Smith mentioned only 1 that was amenable to categorization in a precise time period. But out of a total of 46 listed times, 29 fell in the category ranging from 1 day to 1 week; an additional 9 fell in categories of 4 hours to 1 day; and of the remaining 8 miscellaneous periods, 6 included the possibility that materials would still be acceptable as long as a month after the request date. (The other two listed times were for the period 4 hours to 1 week.)

Let us now look at the types of information wanted at different response times. As noted above, time periods tended to be described in different ways. Specifically, ranges of time are frequently given, rather than a single time period, e.g., "1 day to 1 week," rather than "1 week." But when all the various periods are arrayed in order by length of time, one can notice a general progression in intrinsic urgency of need. To illustrate this, the following sample of information needs was selected from the precise time categories (e.g., the first category includes only items listed for "4 hours," not for a time range).

Four hours: Welfare assistance, legal and political rights, information referral to community resources, health.

One day: Social information, political and legal rights, consumer rights and budgeting information, business information, child-rearing.

One week: Vocational and career information, educational opportunities, use of leisure time.

One month: Ethnic and cultural history.

It is of some interest that the types of information seen as requiring rapid response (4 hours or 1 day) are precisely those that are of central concern to the "Information Reference and Referral" agencies now growing rapidly both inside and outside of the library profession and context, while the least urgently needed information is that usually provided by the traditional public library.

DESIRABLE DELIVERY MODE

Next, we come to suggested information delivery modes. If it has been suspected that an apparently straightforward set of aspects of need can be interpreted in a great many different ways, here we have proof. Therefore, no generalizations about preferred modes will be attempted. Instead some 17 different facets of the delivery mode concept itself that are suggested by the matrix responses will be listed and categorized. For simplicity's sake, those aspects that lend themselves to being considered as binary values will be so listed. However, it should be understood that, in some cases at least, a more thorough description might develop the binary values into a whole spectrum of values.

The Information Itself. Five aspects of delivery mode relate to the information itself. First, the information may be sent out as it is received by the system, or it may be digested and analyzed in some way. This aspect is a principal element in the distinction between traditional libraries and information analysis centers.

Second, information may be sent out by itself; i.e., the user is sent exactly and only the information he wants, or it may be sent embedded in a larger carrier; e.g., the user wants a fact and is sent a whole book in which the fact can be found somewhere. This aspect is closely related to the third point, the common distinction between providing the user the ultimate information desired and providing only pointers, such as bibliographic citations, to the desired information.

Fourth, there is another sense in which information may be embedded in a carrier. Farrell emphasized modern child-development theory, which holds that children receive vast amounts of vital information through manipulative play with objects in their environment. Thus, the so-called "realia," or real-world objects, are an important medium for the transfer of information needed for the child's development. We might therefore contrast direct information-containing objects (e.g., books) with information-generating objects (realia).

The fifth and final parameter relating to information itself is information-processing ease for the user. There are several subelements here: levels of readability in cognitive terms and physical terms (the latter relating to type size), as well as what we might call levels of appeal—how attractively the information is packaged.

Specific Means of Delivery. The next set of parameters has to do with the actual delivery of the information. First, information can be delivered through a single sensory channel or through multiple-sensory channels. Second, it can be delivered by a human being or through nonpersonal means. Third, the information can be directed to an individual or it can be disseminated to a general audience. Fourth, and closely related to this, information can be produced on demand, or it can be disseminated on a general, continuing basis. Fifth, the information can be brought to the individual, he can pick up the information, or there can be combinations of these. Sixth, the user can seek information on his own, or he can search for it with the help of a professional. Seventh, information can be delivered in real-time (e.g., on-line), or it can be batched or handled through some system—such as the U.S. mails—that has a long-turnaround time. Eighth, a whole range of physical modes of delivery can be described—through the mails, through the air, over wires, etc. Finally, we can mention what is probably ordinarily thought of when we say delivery mode—the medium itself: Book, television, tape cassette, on-line system, etc.

Delivery Context. The final set of three parameters has to do with the context of the delivery of information. First, information delivery may be embedded in some form of social service or interaction, e.g., as part of social welfare referral and followup, of an adult education program, of therapy of various kinds, or of diagnosis. Second, the information is almost always transferred in the context of some institution or another—and here the word "institution" is being used in the broad sense. Examples are the library, the hotline, the hospital, the social agency, the professional convention, the storytelling hour, and the kaffeeklatsch. Finally, the information-providing institution may deliver the information by itself or in the context of some cooperative structure, ranging from interlibrary loan to full network status.

PRIORITIES

Finally, we come to the statements by the participants on the priority that should be assigned to each need relative to the other needs that the group has. Unfortunately, 4 of the 12 user-group statements have no priorities in their matrices at all, and the remaining matrices do not support any generalization. One can detect a faint trend to emphasize the urgent and the bread-and-butter sorts of needs—in the occupational groups, more emphasis on career advancement and information related directly to the performance of the job than on creative stimulus, and, among the social and demographic groups, emphasis on health and other basic survival crises. Beyond this, little can be said. However, one interesting point was noted with the latter groups: both Casey and Hayes assigned top priority to the provision of "information and referral" services for their groups—a need which, as already noted, is traditionally served poorly, if at all, in public libraries.

It can be seen from this analysis that the matrix format developed at the conference for needs description does not suffice to regularize description to the point where true across-the-board comparisons between groups can be made. Some methodological suggestions to be put forth in the final chapter may contribute to greater regularity in future descriptions. In the meantime, we are left with a sense of the great range and variety of both human information needs and the ways there are to satisfy them.

STRATEGIES FOR MEETING NEEDS

The matrix format used to describe information needs was intended to help crystallize the important aspects of user needs. While it did so, to some extent, its coverage was necessarily incomplete. There is one area, in particular, that may benefit from additional summary here: strategies for meeting information needs. The participants had many things to say about ways in which we should move to meet the described user needs. Their statements are summarized in table 6–1 (prepared by the editors).

The categories selected for this matrix reflect strategies or tactics mentioned or implied in the conference papers. At one level, the strategies are "obvious," because there are only so many ways to meet information needs: we can change or improve services, or staffing, or materials, etc. But the suggested strategies do more than elaborate the obvious. Some suggested directions are of particular interest. for example, the strong emphasis on expanded services and materials – including nonprint resources – as opposed to physical facilities. The original shell matrix we developed included a column for noting strategies involving change or expansion of physical facilities, but it was not used; not one conference participant mentioned this explicitly.

The matrix display reveals a strong emphasis on the increasing need for specialized training for library and information facility staff members – to prepare them for handling the particular needs of population subgroups and to help them "take the information to the user." The suggestion was made to hire individuals from user groups as staff members. Such a strategy would give the library personnel who deeply understand the needs of their existing and potential clientele.

Several conferees suggested that the recipients of information services also be trained in the use of information services while they are still in school. Clearly, if people have misconceptions, or no conceptions, about information services, they may not know enough even to ask for help. The need to create awareness of information services is also reflected in the several mentions made of public relations and lobbying activities as strategies for meeting needs. Though information at the right time and place may either save a life or enrich it, information services are not widely

Table 6–1 Strategies for Meeting Needs

[Checkmark means topic was mentioned much as stated in column heading]

Group	More specialized training for librarians	More use of nonprint and other unconventional media	Improvement of collections and bibliographic/reference sources	Increase or change in services	Networking and other cooperative arrangements	Needs assessment, feedback from public	Public relations, lobbying, and related	Other—
Business.	Draw on business undergraduates. Courses in business librarianship.			Draw upon public libraries for aid.	Regional networks and business reference centers.		Public relations in business world: Why they need us.	Regional GPO bookstores more oriented to business needs. Improve business user awareness through library instruction.
Labor.	Use staff who can relate well to labor needs.				Network labor information service nationally, Department of Labor on down. Coordinate labor services within geographical area.			Joint planning by labor and libraries on services to be provided.
Agriculture.			Local libraries collect land planing and development information. Collect extension, agricultural agency, and business reports for farmers and agribusiness interests.	Assemble complex information from relevant sources of use to farmers. Joint effort of libraries, extension, universities, and agencies. Offer informal agricultural educational programs. Outreach efforts to part-time and low-income farmers. Telephone answering service for home garden questions.	National network incorporating county extension agents, libraries, and agricultural agencies.			Aid from retired people in extending services. Devise means to help educate migrant children.
Creative and performing artists.		Use, especially for vernacular arts. Arts require technical capability for **high quality** sound and pictures.						

Table 6-1 Strategies for Meeting Needs—Continued

Group	More specialized training for librarians	More use of nonprint and other unconventional media	Improvement of collections and bibliographic/reference sources	Increase or change in services	Networking and other cooperative arrangements	Needs assessment feedback from public	Public relations, lobbying, and related	Other--
Scientists and technologists.				Improve secondary information services: better reviews, inventories, etc.		Develop procedures for identifying researchers (usually junior) who most need externally provided information services and what they need.		
Social services personnel.				Active dissemination of information in many ways to this group.			Better public relations to social service personnel about what is available.	
Biomedical.	More emphasis in recruitment on knowledge of subject and skills related to effective information transfer.			Service at "point of impact of need" instead of requiring user to go someplace to get information. Library and information service as information "detail person" contacting biomedical personnel in office.			Educate money providers to see value of effective biomedical information services.	Build system for tapping information on many subjects. Include national lending service such as Great Britain has. Train users in professional schools to use sources.
Women, homemakers, and parents.	Library school and continuing education related to life information organization and retrieval.							Public library should house but not administer hotlines to foster closer identification of public library and life information in public's mind.
Children.	Training of librarians in early childhood education.			Disseminate research on children to child care professionals.				Develop programs or new organizational structures such as "ne[illegible]d hum[illegible]vice center" to meet children's needs.

Table 6–1 Strategies for Meeting Needs—Continued

Children—continued								Involve children and para- and nonprofessionals in decisions about services to children. Research to explore and evaluate effectiveness of learning resource or library and information centers for young children.
Young adults	Continuing education for staff on materials, media, young adult development.	Encourage greater use by staff.			Cooperate with other community agencies serving this group.	Communicate with young adults regarding their information needs. Get public feedback on programs and policies for young adults.	Work to increase funding.	
Aging					Cooperate with other agencies serving aging.		Library associations and library press should give more emphasis to service to aging in programming and reporting.	Plan services with the aging. Designate specific staff to serve aging. Federal government should provide funding for programs, training, and research.
Mentally and physically handicapped	Librarians serving group should have both library and special education training. Offer fellowships to recruit people interested in work in this area.	Materials for blind and handicapped. General emphasis on audiovisual materials.		Each public library should have special department for the handicapped.			Create good public understanding of needs of this group.	Funding should be earmarked for mentally retarded and physically handicapped.
Institutionalized	Employ the institutionalized in libraries.				Foster cooperation in library community.	Design information service systems to be "self-evaluative."		Involve institutionalized in program planning. Increase funding and reach all institutionalized. Share resources of large institutions and draw on volunteers.

Table 6–1 Strategies for Meeting Needs—Continued

Group	More specialized training for librarians	More use of nonprint and other unconventional media	Improvement of collections and bibliographic/reference sources	Increase or change in services	Networking and other cooperative arrangements	Needs assessment, feedback from public	Public relations, lobbying, and related	Other—
Economically and socially deprived.	Continuing education to sensitize to needs of this group. Library training for paraprofessionals and community aides. Recruit minority members for the profession.		Provide materials desired by them. Need definitive bibliography of materials to use with this group.	Service to people where they are, houses, churches, etc. Extend service hours beyond usual. Emphasize one-to-one contact (enough staff to do it). Emphasize entertainment aspect in programming. Conduct remedial and tutorial programs for all ages. Provide transportation to libraries and related agencies. Provide adult education progams.	Plan programs with other agencies serving groups.			Get publishers to produce more high interest, low vocabularly materials.
Geographically remote.	Train indigenous paraprofessionals to transmit information in isolated areas. They will work under professional with whom have trained.		Seek out or develop specialized materials. Include low reading level information on life coping skills, subcultures, local history. Make free materials available.	Transportation of information to users and vice versa. Includes bookmobiles, mail order delivery, rotating collections. Library as community facility for clubs, programs, recreation. Draw on urban services such as interlibrary loan and speaker services.	Interagency cooperation in rural information transfer.	Ask people information needs through reader profile cards.		Organize rural cooperatives for control of information services.
Mexican-Americans.	(No statement of strategies.)							

viewed as having a value or urgency nearly as great as that attributed to other community social services. A better job must be done in making the potential value of information services more evident to the Congress, to state and local governments, and to the public.

The majority of the conferees recommended interagency cooperation or national or regional library networks as means for working to meet user needs. Whatever the specific mechanism, resource-sharing, if well-planned and carried out, has the potential to reduce duplication and—with some of the resulting savings—to expand services in whatever directions are important to the particular constituencies involved.

CHAPTER 7

Implications of the Conference

Before we discuss the implications of the Denver User Needs Conference, it may be useful to consider what it is appropriate to expect from a meeting of this sort. First, one should not expect a single meeting, even with careful preparation and the participation of recognized specialists, to provide the kind and degree of understanding of library and information service needs that could be provided by direct and widespread contact with a large representative sample of the U.S. population. The conference mechanism was a shortcut, adopted for reasons of cost and convenience, to provide a first-level, moderately comprehensive view of present and future library and information needs.

Second, one should not reasonably expect to discover from a meeting such as the Denver User Needs Conference a host of startling, new, unrecognized needs. While many of the ideas expressed in the conference present or include new perspectives on user needs, it would be unrealistic to expect either that totally new needs would be unearthed or that current concepts of needs would be discovered to be seriously in error. What was more likely was that we would develop a clearer and more detailed understanding of particular service emphases that would cause given segments of the population to agree that they were being well served.

Finally, one should not reasonably expect a single, simple, all-encompassing pronouncement of the needs of the American people for library and information service to emerge. As was indicated in the introduction to this book, information needs are inherently complex—difficult to define and articulate—and when we attempt global formulations of user needs, we run the risk of having to make them so general that they become meaningless. Thus, while most of us can probably agree with the statement that "People should be provided with the information they need, when they need it," the statement does not begin to provide the guidance necessary for system planning or for the evaluation of library and information services.

What is really required, and what the Denver User Needs Conference could reasonably be expected to provide, is a significant contribution toward a comprehensive catalog of user needs, wishes, requirements, or demands—the terminology is not crucial at this point—that can be used to appraise current systems and services and to test the suitability of new system and service concepts as they are planned. One can think of the catalog as something like a checklist of requirements that must somehow be met by any proposed library and information system or systems worthy of national attention and support. What distinguishes this catalog from most previous public information needs statements is its emphasis on the needs of distinct subgroups of the population. Much work heretofore has dealt with the public as a single mass, with homogeneous needs. The effort in this report to identify the specific needs of individual groups is an important step in the hard work of fulfilling the public's information needs in a much more precise and thorough way.

I. Current and Future Needs—A Synthesis

We have now learned of the information service priorities of the conference participants and of their views on the future trends relating to information services. In this section, drawing on stated priorities and other statements made in discussion, the editors will try to put these various points together in a single encompassing model.

Table 7-1 provides a simplified outline of the model. It takes as a central fact, from which all other considerations flow, that we are living in an age of information. We are just at the beginning of it; information will grow in importance in the coming years, taking up more and more of the economy and looming larger in our daily lives. Parker documented this trend extensively in chapter 2, so no further elaboration of the point will be made here.

The growing importance of information has three principal consequences of interest to us:

- We need information to live successfully (and, sometimes, just to live).
- We are swamped with information, but only a portion of that information is relevant to our needs. Means must be found to isolate the portion relevant to each person.
- The need for public information service is growing rapidly, but serving that need is not fully compatible with the traditional paradigm of American public library service.

These points are elaborated in table 7-1, to some extent, and more fully in the discussion to follow.

Table 7–1 A Model of Information Service Requirements

WE NOW LIVE IN AN AGE OF INFORMATION

This has certain consequences:

A. WE NEED INFORMATION TO LIVE.

1. People need "life information" for day-to-day living.
2. The "spaceship earth" outlook is growing, with recognition that what happens to one person happens to all. If everyone needs information in this age, then we must serve the unserved (conference priority 1).
3. Strong information elements now interlard many areas that were previously largely affective, requiring expansion of traditional library service scope (conference priority 2).
4. It is necessary to accelerate the incorporation of nonprint media, which are clearly superior for some information transfer purposes.

B. WE ARE SWAMPED WITH INFORMATION, ONLY SOME OF WHICH IS USEFUL.

1. The quantity of life information is now great enough to require another organizational level—the library—as a switching center.
2. There is a need to provide selective, interpretive, personalized information services (conference priority 3).
3. There is a need for new and better coordination among different governmental levels and among different disciplines, organizations, and agencies (conference priority 4).
4. To improve service and efficiency, strong feedback loops are needed, and both librarians and users must work to identify information needs.

C. THE LIBRARY HAS THE POTENTIAL TO EMERGE AS A POTENT PUBLIC INFORMATION SOURCE IN THE NEW AGE, IF IT CAN SHAKE THE REMAINING RETARDING ELEMENTS OF THE TRADITIONAL PUBLIC LIBRARY PARADIGM.

A. WE NEED INFORMATION TO LIVE

A1. People need "life information," that is, information contributing to survival and success in living. They have always needed it, but now, in our complex society, this need is growing and becoming more insistent. Old ways of handling this need no longer suffice. This general point was made and supported in Bates' "Speculations" paper (ch. 3).

One way in which some libraries have started to meet this need is through the institution of information and referral centers as new elements or departments in public libraries. Carol Becker's **"Community Information Service: A Directory of Public Library Involvement"*** lists over 50 such centers in operation or being developed in libraries, the great majority of which have been started only in the last few years. If this model is further developed and refined, and coupled with other elements in the recommendations of the conference participants (national coordination, heavy use of media, etc.), it is possible that life information needs will come to be well served in libraries.

A2. We must concentrate, in our information-dissemination efforts, on serving the poorly served. One of the consequences of the ecology movement has been a growing awareness—witness the phrase "spaceship earth"—that the world is a nearly closed system, with natural, social, and economic cycles that, sooner or later, connect every part of the earth's resources or cultures with almost every other part. Lately, this awareness is being coupled with the realization that the rapid growth of population is making it increasingly difficult for one part of humanity to live isolated from and unaffected by other parts of humanity. In this new, 20th-century world, the rich cannot live untouched by the consequences of the poverty of the poor. This is true for rich nations as well as for rich individuals within nations.

What these new realities portend is that improving the life conditions and opportunities of the less well off is no longer just a good or virtuous thing to do: it is a necessity. In the age of information, the equalization of information service and access—a goal already enunciated by the National Commission on Libraries and Information Science—is a critical part of that general equalization of opportunity.

First priority was given by the conference participants to bringing information service to the "less well served" up to the level enjoyed by the well served. They saw this as a catch-up time, a time in which long-neglected groups would be given preferential treatment, that is, should be provided with disproportionately large resources until information access had been more nearly equalized. In the category of the less well served, the conference participants included not only the culturally isolated, the handicapped, and other minority groups in the general population, but also the lower echelon professional and occupational groups who do not get the quality of service that, for example, scientific researchers receive.

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*University of Maryland College of Library and Information Services, in press.

From the woman trying to serve her family nutritious meals on a domestic's wage, to the schoolteacher who has not the time or the education to interpret the latest research findings on child psychology, those poorly served with information are far more numerous than the well-served. To meet the needs of this group, while not slighting the needs of those already well served, will require a very large increase in the amount of resources to be devoted to information services at all levels. A related theme sounded by the conferees was that the groups to be served should have a large say in planning information services and an active part in the serving of their fellows. In serving the unserved, we should not function as an elite group handing out goods to the less fortunate. Instead, all citizens (or representatives chosen from their ranks) should participate in information system planning and service.

A3. Many decisions previously based totally on personal opinion, folk wisdom, or moral injunction now require large inputs of information to be made successfully. The conference participants gave as one of their priorities the evaluation of proposed information service projects in terms of whether the project reflects and deals with major national concerns, such as polarization and the need to develop national unity, improve race relations, etc. At first glance it may appear strange to ask of an information service project that it somehow reflect concern with such problems as polarization. How can information facilities help beyond the traditional way of providing factual information to any who ask for it?

In the complex, overcrowded, interrelated age of information, there is a great deal more information in existence and readily available, to influence decisions. At the same time (we will not speculate here on cause-and-effect relationships) people are choosing to draw upon this information more and more and to rely less and less on religious injunctions, folk wisdom, etc., in making their decisions. Thus, many people now need and want to have information inputs into decisions that they would have formerly made solely on the basis of their personal values or beliefs. In addition, the sheer complexity of modern society creates information requirements related to decision-making. In almost every personal-decision area, from job selection to contraception to choice of education, good decisions require very much larger information inputs than they formerly did.

For example, an argument between parent and child 50 years ago over the use of alcohol or other drugs was likely to have been made on the grounds of moral or religious philosophy. Now, with both a wide range of drugs available, and a wide range of facts about those drugs, the argument is more likely to center around facts—is drug "X" safe or not? The emotional and moral elements may still be large, and the argument probably still heated, but facts will play a more important role in the discussion than they have before.

When we move from personal to national issues, we can see that here, too, having adequate information is very important. Consider the 1973–74 debate over whether there really was an oil shortage. With an industry as large and extensive as the oil industry, the central fact of the amount of available oil was not as easy to ascertain as it might have been in a smaller and more isolated society a hundred years ago. Or, to take one of the matters mentioned by the conferees—polarization—one of the elements in this problem has been the fear that abortion laws might be used with genocidal intent by whites against blacks. Facts alone certainly will not resolve such a heated question, but facts are necessary to the debate—facts on the details of proposed laws, facts on alternatives (or lack of alternatives) available to poor women in the absence of legalized abortion, and so on. Given this kind of necessity, it is understandable that the conference participants should give high priority to the goal of making information services relate somehow to the improvement of national problem situations. Information plays a larger role than it once did in national issues.

In this regard, the discussion at the end of the "Highlights" section in chapter 4 is of particular interest. Farrell and Minudri had spoken of libraries meeting developmental and personal growth needs by various means, including, for example, the provision of realia for children and practice rooms for teenage musicians. Some felt that such services would extend the library beyond its proper bounds. Paisley argued that, for the next couple of decades, at least, planning should exclude such extended services in libraries because ". . . knowledge resources are at the heart of this particular social system." When Hayes suggested that Paisley was limiting the concept of knowledge resources to only cognitive, not affective, resources, Paisley replied that he interpreted "knowledge resources" quite broadly but that suggestions by Farrell and Minudri would tax the library's limited budget and result in poorer performance of the library's central mission.

Perhaps this difference in point of view can be reconciled, to some extent, in light of the approach taken in this section. If we accept that there are many factual elements interlarding what were formerly purely affective areas, then the library must indeed extend its services beyond their former limits. It must involve itself, to some extent, in controversial and emotion-packed issues because these now have large information components. Since many of these mixed factual/affective areas do have such strong affective components, new means must be found to deal with them in the library context. In helping members of the community deal with these issues, new techniques must be used; libraries must not only be centers for books, films, and formal lectures—the traditional cognitive approach to information transfer—but they should also introduce techniques that approach both the cognitive and the affective simultaneously, such as workshops and quasi-encounter group forms.

On the other hand, there should be limits to the extent of the domain of this new library model. Libraries need not enter the human-potentials business, and librarians need not become encounter group leaders, for such things as encounter groups are almost purely affective in nature. So, on this basis, we can define a model of library service that takes account of these newly information-laden issues. The library in this model moves beyond traditional purely cognitive approaches to information provision into affective areas, but limits the areas of involvement to those that have a significant information component.

So far, the discussion in this section has focused on information service at the building level. But the priority statement of the second discussion group was broader than this; they included service-design decisions implicitly at any level. In addition, they felt that priority should be given to projects that improve the quality of life and increase the individual's ability to have social control over his own well-being and his upward mobility. They did not specify how this priority was to be implemented, but the suggested model of information service given in this section may be useful for making priority decisions. It is also suggested that, if libraries use techniques that deal simultaneously with affective as well as cognitive aspects of an information-loaded problem or issue, ultimately the individual will come to feel that he has more control over his own life. This feeling will come as the result of clarification of issues loaded with both emotional and informational elements.

A4. Nonprint media must be used extensively to serve the unserved. Many of those not being reached by public information services are unserved because they either do not like, or are unable, to read. And it may be, as Bates suggested in her "Speculations" paper, that, regardless of attitudes toward reading, some media are more efficient in some kinds of information transfer than others are. One way to improve service, then, may be to select media with regard to their efficiency relative to the type of information being disseminated.

Be that as it may, it is certainly clear that if we all need information to live, and certain people do not or cannot read (often, these are the people who could most use information), then we must get that information to them through means other than print. Cable television and inexpensive videotape are two modes that currently offer extensive possibilities in nonprint information transfer, but they are not the only useful media by any means.

B. WE ARE SWAMPED WITH INFORMATION

B1. The quantity of information that is potentially accessible has become sufficiently great to require another organizational, or hierarchical, level of control. There are now so many different agencies and other sources dispensing information that the user often does not even know where to begin. In the view of some conference participants, the library could and should take on the role as central switching agency in the community. It should become the first place that citizens could call to get either the ultimate information desired, or a direction to the source that can provide the information. As that agency in the society principally concerned with the organization of information, the library is the logical place for the organizing and switching function to reside.

B2. As an additional means of controlling the mass of information, information services need to be more selective, interpretive, and personalized. That is, since there is so much information that an individual must potentially deal with, information that is **relevant** for the individual must, to the extent possible, be preselected, digested, honed down, and personalized to the individual's need. This is the third stated priority by the conference participants. Classification and indexing theory in library and information science must be developed to a far more sophisticated level to cope with the new selective and interpretive approaches advocated by the conference participants.

These processes that work with the information before the user sees it are subject to serious abuse. While we develop techniques for information analysis, public SDI, and other such approaches, we would do well to develop principles of information selection that help to maintain the fidelity of information content.

B3. The fourth-named priority of the conferees was for consideration of coordination and distribution of responsibilities for information organization and dissemination among different jurisdictional levels and among different disciplines, organizations, and agencies in the society. The previous suggestion, dealing with the bits of information themselves, is a microlevel means of handling the information-overload problem; this fourth priority deals with a macrolevel solution. Clearly, proper coordination and reduction of overlap will help cut back on the overload on the information user.

It is recognized that certain kinds of functions are dealt with better at certain jurisdictional levels. Large, expensive information projects that are of potential value in many areas of the country should be done on a national scale. This does not require that such projects necessarily be conducted at a single centralized location. Sometimes components of projects can be handled locally, to be coordinated later into a single whole. Other kinds of projects are clearly better done locally. As several conferees emphasized, a local library staff's knowledge of their clientele's needs should be exploited, rather than drowned in directives and decisions from some far-off agency. This distribution of information-handling tasks among several levels and several agencies and organizations (both private and public) requires a great deal of coordinative work, but the advantage to be gained is that of an **efficient pluralistic** information service, rather than either a fragmented or an overly centralized one.*

B4. In the discussion following the report of the first working group, on the definition of information needs, McClaskey and Minudri emphasized the importance of drawing upon user feedback in design and redesign of information systems. (This is another means of improving efficiency in an information-overload situation.) As the subsequent discussion between Slate and Paisley showed, the use of feedback is not so easily accomplished. Slate said that there are occasions when the librarian knows better than the user what is available and what the user should get; Paisley said that sometimes what the librarian would consider an incomplete response to a user's stated requirement might, in fact, be just what he wants at that point and that the librarian should not thrust more resources on the user than he says he wants.

Whose judgment on the nature of information need and the state of need satisfaction should prevail here? Perhaps we can resolve this question with the following view of the situation. The librarian knows the resources, the user knows best what he wants and this presents a true feedback and communication problem, almost identical with that in the physician-patient relationship. The physician knows the body and its illnesses, the patient has the control over his body, and it takes the consent of both of them for treatment to take place. The physician must communicate successfully his view of the medical situation; the patient must communicate his attitude on any possible medical treatment, for example, his religious objections to a proposed treatment. In a similar manner, librarian and user must close the gap between their separate expertises—on information resources and information need, respectively—for optimal information transfer to take place.

C. THE LIBRARY MUST EXPAND ITS CONCEPT OF SERVICE

The library has the potential to emerge as a potent public information source if it can shake the retarding elements of the old paradigm of public library service. It needs to change its ideas of:

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*Conceptualizing such a multilevel, multiparticipant, multiservice system is a primary task in the current program of the National Commission on Libraries and Information Science.

- What information is (only cognitive);
- what the medium for information is (only or primarily traditional print forms);
- what the institutional context for information transfer is (the quiet, reserved library context);
- what an information transfer facilitator is (the "librarian" image).

Many libraries and librarians have already changed significantly from the classic, traditional model, but in relation to the current realities, the field as a whole may, because of limited financial resources and limiting service conceptions, be acting too slowly in taking on the new and much more extended information service tasks required in the age of information.

The conference's views can be summarized as follows:

- All citizens in this age of information need large amounts of information for day-to-day living. Many of our citizens are receiving poor service in this area. For the time being, a disproportionate amount of resources should go into bringing the status of the currently unserved or poorly served up to that of the well served.
- Since many of the unserved do not or cannot read, strong emphasis must be given to the use of nonprint media.
- Mixed affective/cognitive needs, as well as purely cognitive ones, must be served. The suitability of proposed information service projects should be measured at least partly by how well they serve to help resolve national and group issues.
- We need to provide selective, interpretive, personalized services in the context of the library as a central information request point and switching agency in the community. This service, more sophisticated and pinpointed to the individual, should be designed with the aid of continuing feedback from users. In addition, it should be provided in the context of better coordinated and better planned interaction among various governmental levels and among different disciplines, organizations, and agencies.
- The public library—or its renamed successor—will be in the forefront of the new information age if it is sufficiently adaptable to the new information requirements of the late 20th century.

It must be recognized, of course, that organizations and agencies other than the library are actively involved in satisfying the need for life information. Some coordination and decisionmaking among the various fields—social welfare, mental health, librarianship, etc.—must be effected, in order to avoid overlapping and confusion in the service of these needs. Information and referral services are intended to relieve confusion, not add to it.

II. Use of Conference Findings

The National Commission on Libraries and Information Science is charged with a number of major tasks, central among which is that of planning for the coordinated development and equitable use of the Nation's library and informational resources. To the extent that its planning responsibilities involve the Commission in system design—and the term "system" here does not necessarily imply either centralization or Federal control—the Commission must ask, again and again: "How well does this proposed system, or this part of the proposed system, meet the specific needs of group A? of group B? and of each of the other groups in our population that have special, identifiable needs for library and information service?"

The implication of the foregoing discussion is that the most valuable information stemming from the Denver User Needs Conference consists of the detailed statements of user requirements, in the individual papers in chapter 4. The Commission is already using this material to help define and develop its national program. But every library, every city, every State, and every library system organization can also begin to use those requirements to appraise both present and planned services.

It should not be assumed from the foregoing that the statements of user needs contained in this book are presumed to be complete or even fully accurate. As already indicated, some potential user groups in the population were not covered in any great detail; others were not covered at all. But until we are able to replace the information in this book with more detailed, empirically based, comprehensive data, it can serve the checklist function outlined above.

METHODOLOGICAL IMPLICATIONS FOR FUTURE ANALYSIS OF USER NEEDS

The conference presentations and discussion revealed the need to:

(1) develop an understanding of the library and information service needs of all subgroups of the population, and
(2) develop tools and techniques for gathering accurate, consistent, and comparable data on information needs and for the subsequent description of those needs.

To provide better user-group coverage, at least for the occupational groups, it may be desirable to use a general user-group matrix similar to that shown in figure 7—1. By defining user groups in the context of such a matrix, the overlap and underlap problems noted in chapter 6 might be avoided. It should be understood that the number of groups is arbitrary. The layout in figure 7–1 may be far too detailed—in the sense of having too many groups—for some purposes, and not nearly detailed enough for others. But it is easily changeable, in either direction.

The problem of achieving reliability and validity of data gathered on information needs is complex and difficult. It will require concerted research attention for solution. However, the Denver User Needs Conference showed the potential of the type of needs matrix format used by the conferees. It seems likely that both data gathering and professional communication on user needs could be greatly improved if the aspects of needs in the matrix were more carefully defined and closely followed. Though the concept of "information need" is admittedly very complex and resistant to simplistic formulations, it, along with "purpose to user," can probably be defined adequately for the purpose of developing useful new information to assist library and information system planners.

On one aspect of needs—desirable speed of system response—the variations among the various subgroups, particularly in the occupational matrices, suggests that the Denver conferees were using different implicit criteria for urgency. No doubt such different criteria would be operative with any heterogeneous group such as attended the conference. One possible approach for reducing spurious variability might be to ask the user (or the user's representative) to estimate desirable response speed in terms of utility of the information at three points in time:

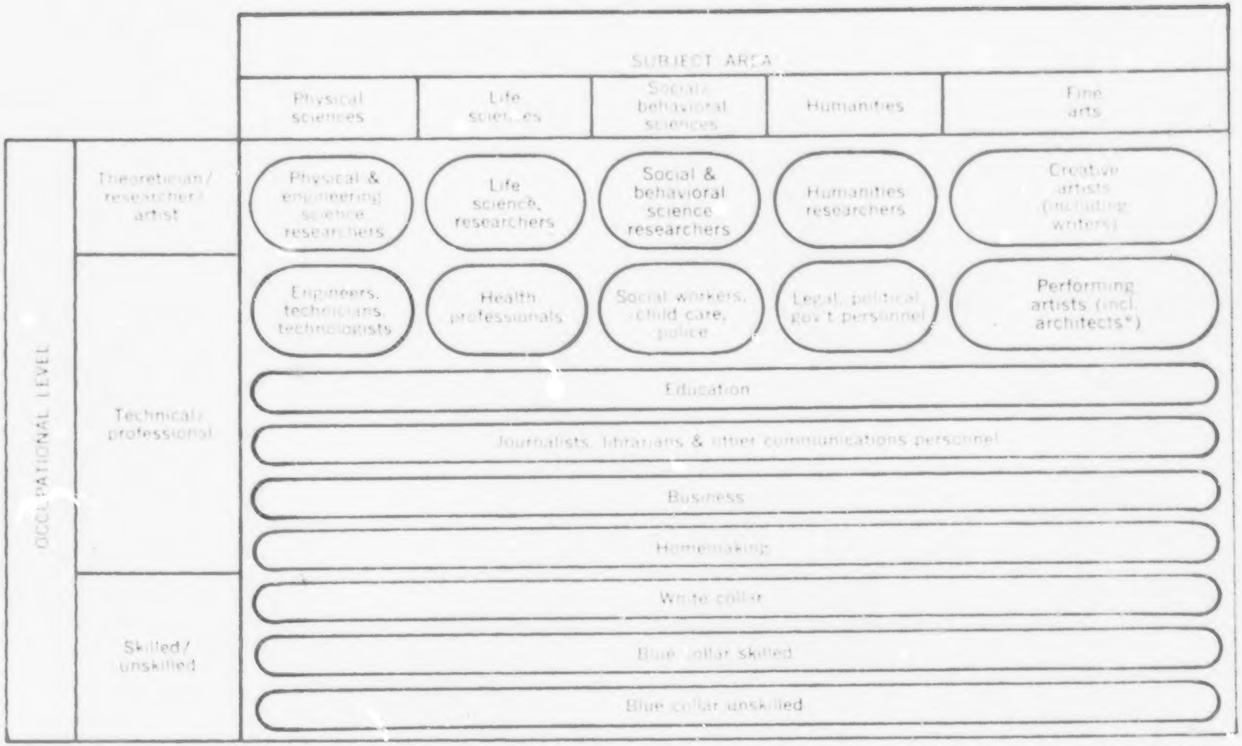
(1) The first point is the earliest time at which the information will be needed. Receipt of the information any sooner than this time would make no difference, i.e., would not add to utility. For example, if the user is not going to start on the project until next week, getting the information this week will make no difference.

(2) The second point is the latest time at which the desired information would still be fully useful, with none of the information having been outdated or superseded.

(3) The third point is the time beyond which the information will be of no use to the user.

Similarly, the concept of "delivery mode" needs much more careful definition, if it is to be used in developing statements of user needs or, indeed, in discussing means for fulfilling them. As was seen in chapter 6, the concept, which can easily be taken as a simple and straightforward one, actually encompasses at least a dozen different dimensions. These dimensions need to be defined and interrelated so that workable and acceptable categories can be developed for user needs study. This ap-

Figure 7-1 Suggested Layout for Occupational Categories


SUBJECT AREA
Physical sciences
Life sciences
Social/ behavioral sciences
Humanities
Fine arts
OCCUPATIONAL LEVEL
Theoretician/ researcher/ artist
Technical/ professional
Skilled/ unskilled
Physical & engineering science researchers
Life science, researchers
Social & behavioral science researchers
Humanities researchers
Creative artists (including writers)
Engineers, technicians, technologists
Health professionals
Social workers, child care, police
Legal, political gov't personnel
Performing artists (incl. architects*)
Education
Journalists, librarians & other communications personnel
Business
Homemaking
White collar
Blue collar skilled
Blue collar unskilled

*Architects are difficult to classify because they clearly have a creative artist aspect. They have been put with the technical/professional group because of their classification as a profession.

plies as well to the specific media themselves, which are still being described (for example, in various sets of cataloging rules) in several different ways.

EDUCATIONAL IMPLICATIONS OF CONFERENCE

The growth of open universities and other alternative educational forms predicted by the third working group will certainly have an impact on the nature and extent of public information services. But there is another educational consequence of the predicted trends and recommended efforts that will have a stronger impact. Throughout these proceedings, there was repeated mention of provision of life information and the use of more sophisticated information analysis and dissemination techniques. Different and more sophisticated services cannot be successfully provided in the long run unless librarians have the proper educational background to handle the demands they are placing on themselves.

Much of what librarians need to learn does not exist in any written form, and still more does not exist at all. Many techniques related to gathering, organizing, and providing for pinpoint dissemination of life information have yet to be developed. There is a need for new developments in library school and continuing education curricula in the following areas:

Gathering and selecting information. With life information, it is necessary to develop personal contacts and to select agencies and individuals as information sources, rather than books. Traditional book-selection practices will be largely useless for this kind of selection.

Organizing information. New thesauri will have to be developed to index life information for libraries, since current popular subject heading lists were not designed to describe it. Furthermore, if information is to be organized for rapid retrieval and pinpoint dissemination, information description will have to be more detailed and precise than is usually the case in libraries. Changes in organization at the file, record, and field level will have to be made to suit new demands. Just what the nature of all these changes will be is not now clear.

Active processing and disseminating. The recommended orientation to a higher level of service that is discernible in these proceedings has educational consequences. Techniques must be developed to produce life information pathfinders (search aids), information analysis papers and selective dissemination of information to people in their homes. All of these techniques, already used in the special library field, will have different characteristics in the dissemination of life information.

Effective retrieval. Librarians must learn to formulate new types of search requests against new types of files—"files" that often consist of people instead of books. The usual problems associated with the reference interview will be aggravated by the emotional overtones likely to accompany many life-information requests.

In addition to the technical areas described above, new administrative skills and organization may be demanded by the new service patterns. In sum, virtually every area of library education may be affected if the recommendations and predicted trends listed in these proceedings come to pass. The field will be successful in meeting the challenge of these new approaches only if it develops the necessary techniques and disseminates them effectively in library schools and continuing education programs.

DISSEMINATION OF CONFERENCE FINDINGS AND IDEAS

The Denver User Needs Conference provided a forum for the expression of ideas, questions, and problems relating to user needs, as well as to means for fulfilling these needs.

Meeting the many challenges discussed at the conference will take enormous effort and will require the active participation of the entire library and information-service community. It is essential that the members of that community study the data, the discussions, and the conclusions of the Denver User Needs Conference and then take the responsibility for adding, where possible, to our store of knowledge of user needs; for questioning and criticizing the conference report, where necessary; and for applying their own creativity, within their own maximum sphere of influence, to the dual tasks of understanding and fulfilling all of the needs for library and information service. To the extent that this book provides a stimulus for any of these responses, it will have fulfilled its purpose.

APPENDIX

Library Needs of the Disadvantaged

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Foreword

This paper, prepared for the NCLIS Conference on User Needs, is based on two studies, recently performed by System Development Corp. for the U.S. Office of Education, in which the author was involved. The contents of this paper represent the author's opinions and should not be construed as representing the position of the U.S. Office of Education or of System Development Corp.

I. Introduction

This paper differs from the other papers commissioned for the Conference on User Needs held at the University of Denver in that it is derived from two studies performed for the U.S. Office of Education: (1) The Public Library and Federal Policy; (2) Evaluation of Library Service and Construction Act Projects Serving Special Clienteles.

The public library study* did not so much attempt to indicate user needs as it did to define who are the present users of public libraries. Present library response to user needs is more a reflection of what librarians have believed are user needs rather than carefully planned actions based on accurate data gathering efforts.

PUBLIC LIBRARY SERVICES

In an effort to meet the library and information needs of more of the population, many public libraries are offering innovative services in addition to the more traditional ones. These include special services for minorities, multimedia resources, service to the blind, institutional services, service by mail, service to business and industry, service as a community forum, provision of meeting rooms, model cities programs, school for dropouts, orientation to the library, and service to individual community agencies.

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*Wellisch, Jean B., Ruth J. Patrick, Donald V. Black, and Carlos A. Cuadra. The Public Library and Federal Policy. Santa Monica: System Development Corp., April 1973 (TM-5000/002/00).

In general, the newer services offered by the public library share many of the following characteristics: Librarians play an active role in getting library services and materials to the users; services are focused on specific groups, e.g., the aged, the handicapped, and the disadvantaged; attempts are made to match the ethnic or racial background of the library staff with that of the people being served; and the scope of library materials broadened to include audiovisual materials.

Library facilities are being designed and built with room for greater flexibility to accommodate a changing clientele and the use of audiovisual materials; community participation in decisions about library services and programs is highly emphasized; the public library cooperates with other agencies such as the elementary and secondary schools, community colleges, or model cities groups to provide integrated services and to decrease unnecessary duplication of services; and smaller public library systems, such as county systems, join with other systems for efficiency and for greater access to more library materials and to specialized consultants.

Many, if not most, innovative public library programs that are aimed at serving segments of the population who were previously unserved have been made possible through Federal funding.

PUBLIC LIBRARY UTILIZATION AND IMAGE

One of the few national samples of public library users in recent years, the 1967 survey of 1549 adults, commissioned by the National Advisory Commission, establishes the following factors concerning public library users:

Age—Three out of ten adults are users of public libraries. Library usage decreases as the age of patrons increases. Adult users are most likely to be age 21–34.

Education—The educational level of library users is the most important single factor affecting library behavior. More than half of college-educated adults use public libraries; only 1 in 10 grade-school-educated adults uses the public library.

Sex—Women are more likely to be public library users than men, although men tend to use informational and reference services more than women.

Occupation—Most of the heavy users* are professionals; most of the moderate users are white-collar workers and professionals.

Income—Individuals with incomes of $7,000 or more comprise the largest group of users.

Race—The ratio of Caucasian to non-Caucasian is four to one among the heavy users, but there is no significant difference among light users.

Marital Status—Single people are the most likely users; parents with children are the next most likely.

Geographical Proximity—The closer people live to a library, the more they tend to use it.

In the last few years, traditional use patterns appear to have changed in two directions: (1) There are indications that the public library is becoming more responsive and relevant to portions of the population who were previously unserved, and (2) according to some recent reports, adult use appears to be increasing and children's use appears to be decreasing.

The public's view of the library is generally favorable or neutral; no one seems to be against library service. However, nonusers tend to be unaware of the many services offered by the library, and half of the users are aware only of the services of which they take advantage.

The LSCA study** had as one of its goals an assessment of user needs. It is described below.

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*A heavy user was defined for the purposes of the survey as one who had visited the public library nine or more times in the past three months, a moderate user, three to eight times, and a light user, one or two times.

Black, Donald V., H. R. Selden, and Ann W. Luke. "Evaluation of LSCA Services to Special Target Groups: Final Report,**" Santa Monica, System Development Corp., July 1973 (TM-5101/000/02).

II. Definition and Census of Special Clienteles

The Office of Education had provided, at the beginning of the project, a list of special clienteles to be studied. We modified that classification to that presented in table A-1 for quantifying the needs of special clienteles. The fact that someone falls into any of the three classes does not necessarily preclude his use of normal library facilities. Also, persons in different classes or groups may have different needs for special library services. For example, the blind cannot use visual materials but many of them are able to get to the library. Conversely, the totally paralyzed are generally unable to get to the library but can use visual materials.

It should also be noted that figures for the different categories are not directly comparable in their degree of accuracy, but do serve to provide general estimates of the locations of the different special clientele groups, and the relative sizes of the populations of those groups.

DISADVANTAGED

Table A-2 presents population data for the special clientele groups within the disadvantaged class based on the classification presented in table A-1.

The table contains an indication of the population and/or estimate of the number of individuals within that population that would qualify as economically disadvantaged. Whenever possible, 1970 census data were used; where such data were unavailable, the population values were estimated.

To determine the numbers of economically disadvantaged within each group, we used actual population figures for members of that group, plus information obtained from various government sources about the percentage of people within each group that are economically disadvantaged.

While table A–2 indicates the number of economically disadvantaged in each special clientele group by State and region, they do not indicate the obvious fact that the distribution of special clientele is usually uneven within a State. For example, in the State of New York, there are approximately 2,167,000 blacks, of whom approximately 664,000 are economically disadvantaged. Table A-2 does not indicate the fact that the greatest single concentration of economically disadvantaged blacks is in the New York City area; or that significant concentrations of economically

Table A–1 Classification of Special Clienteles

Class	Group
Disadvantaged	Economically disadvantaged blacks.[a][b] Economically disadvantaged whites.[a][b] Chicano.[b] Puerto Rican.[b] Cuban.[b] Other Spanish speaking.[c] American Indian.[d] Chinese. Japanese. Other Asiatic.[e] ESL's other than above. Migrants.[f]
Institutionalized	Hospitalized—long term.[g] Hospitalized—mental hospitals. Hospitalized—retarded. Inmates—correctional facilities.[h]
Handicapped	Visually handicapped. Speech and hearing disorders. Paralyzed. Amputees. Aged.[j]

[a] Below poverty line.
[b] May be further subdivided into urban, suburban, or rural.
[c] Primarily people of Central and South American origin.
[d] Subdivided into urban and reservation.
[e] Mostly Filipino.
[f] Distributed among various ethnic types included above.
[g] Includes only long-term stays; excludes most general hospitals.
[h] Excludes city and county jails; may be further divided into youth/adult and/or male/female.
[i] Limited to those who physical liability seriously limits their ability to use conventional library materials or services.
[j] Limited to those who are 75 or older.

disadvantaged blacks are found in Buffalo, with somewhat lesser numbers in Syracuse and Rochester. Thus, the table does not show that these four cities account for almost all of the economically disadvantaged blacks in the State of New York. Similarly, uneven concentrations exist for the other economically disadvantaged groups.

It should be noted that table A–2 includes other disadvantaged groups, such as migrants and those who speak English as a second language (ESL's) or not at all. These groups were not isolated from the remainder of the disadvantaged in table A–2 because the data were not available.

In table A-2 we have included total populations of the Spanish speaking as well as economically disadvantaged, since many are culturally disadvantaged. It should also be noted that the population figures for Asiatics and Indians are for the total populations of those races, not just for the economically disadvantaged.

INSTITUTIONALIZED

The institutionalized population falls into two major groups: Those in hospitals and those in correctional facilities. Since LSCA funding is provided to the States for their use, we limited our institutional data to State and county facilities. Our institutional data sources were 2 to 3 years old, largely because 1970 figures were just becoming available. In the case of hospitalized people, we adjusted our figures to reflect the 1970 population; however, we used 1967 data on correctional institutions because we believe there is essentially no change in the inmate population in correctional facilities*.

With respect to the institutionalized, an important factor is the number of persons per institution. For example, if there were 100 institutions, with 100 people each, in a given State, the implications for library services for such persons would be considerably different than if there were 10 institutions with 1,000 people each in that State—despite the fact that the total inmate population for the State is the same in either case. Thus, tables A–3 and A–4, which present the data for hospital and correctional groups, contain information about the number of institutions as well as the population within those institutions.

Data for such facilities as nursing and convalescent homes were not included in the hospital figures, since they largely serve the aged who are treated as a separate group under "handicapped." The populations in hospitals for the mentally and emotionally disturbed and the retarded were all considered long term.

HANDICAPPED

Members of special clientele groups in the first two classes tend to concentrate in prescribed geographical

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*Recent data have shown a slight decline in inmate populations of some institutions and a slight increase in others, with no substantial change between 1967 and 1970.

Table A–2 Estimated Number of Black and White People whose Income Is Below the Poverty Line[a], Estimated Population of Chicanos, Puerto Ricans, and Cubans, and Numbers of Those Persons Below Poverty Line[e], and Distribution of People of Asiatic Extraction and American Indians

Region and State	Black		White[d]		Chicano				Puerto Rican				Cuban		Chinese	Japanese	Other Asiatic	American Indian
					Urban		Rural		Urban		Rural							
	Urban[b]	Rural[b]	Urban[b]	Rural[b]	Population	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	(X1,000)	(×1,000)	(×1,000)	(×1,000)
I																		
Connecticut	37.2	22.4	166.7	91.0		See note "g" below.			15.0	2.1					1.6	1.2	2.4	1.4
Maine	.3	.8	38.0	68.8											.2	.6	.5	3.0
Massachusetts	39.6	14.7	352.1	158.1					5.0	.7					13.4	4.0	5.3	3.1
Rhode Island	6.0	1.8	60.5	16.7					2.0	.3					1.2	.4	1.2	1.4
New Hampshire	.4	.7	31.3	45.4											.4	.4	.3	.1
Vermont	[f]Nil	.3	10.8	4.3											.1	.1	.1	.1
Total	83.5	40.7	659.4	384.3					22.0	3.1					16.9	6.7	9.8	9.1
II																		
New York	492.8	171.6	1,026.0	325.1	23.7	3.0	6.3	8.0	1,090.0	155.9					82.0	17.4	25.4	25.7
New Jersey	18.1	46.9	429.0	100.1					75.0	10.7					7.6	7.0	6.7	2.6
Puerto Rico	[c]ND	ND	ND	ND					2,698.0	(h)	(i)				[c]ND	ND	ND	ND
Virgin Islands	ND	ND	ND	ND											ND	ND	ND	ND
Total	510.9	218.5	1,455.0	425.2	23.7	3.0	6.3	8.0	3,863.0	166.6					89.6	24.4	32.1	28.3
III																		
Delaware	15.0	11.8	25.5	18.4											.1	.4	.5	.8
District of Columbia	14.3	.0	15.8	.0											5.2	1.8	4.7	.8
Maryland	14.2	90.0	18.5	106.2											4.2	3.6	4.8	2.3
Pennsylvania	19.3	158.0	583.4	434.6					70.0	1.0					7.4	4.2	4.1	3.1
Virginia	14.4	174.0	180.0	196.8											2.2	3.4	6.4	3.1
West Virginia	7.6	24.6	49.4	144.4											.2	.2	.7	.1
Total	84.8	458.4	872.6	900.4					70.0	1.0					19.3	13.6	21.2	10.2
IV																		
Alabama	141.0	206.2	112.2	149.3											.6	1.0	1.3	1.8
Florida	224.8	106.9	349.3	158.1											2.0	2.6	4.6	5.2
Georgia	191.0	258.2	155.2	191.0											1.4	1.8	1.7	1.0
Kentucky	33.5	62.7	118.0	201.2											.6	2.0	1.1	.5
Mississippi	95.5	247.2	47.1	109.7											2.4	.4	.5	5.2
North Carolina	136.[illegible]	341.7	133.1	303.9											.8	2.0	1.8	50.4
South Carolina	99.8	225.7	64.8	133.4											.4	1.0	1.0	1.5
Tennessee	98.6	142.5	146.4	192.5											1.0	1.0	1.3	.8
Total	1,021.4	1,591.1	1,126.1	1,439.1											9.2	11.8	13.3	66.4

Table A–2 Estimated Number of Black and White People whose Income Is Below the Poverty Line [a], Estimated Population of Chicanos, Puerto Ricans, and Cubans, and Numbers of Those Persons Below Poverty Line [e], and Distribution of People of Asiatic Extraction and American Indians—Continued

V																		
Illinois	314.8	132.4	605.5	231.7	149.5	19.0	39.5	5.0	64.0	9.2					14.0	28.0	12.9	7.8
Indiana	61.6	68.4	237.7	240.2	33.2	4.2	8.8	1.1							2.0	3.0	2.9	1.4
Michigan	194.5	141.7	439.3	291.4	57.0	7.2	15.0	1.9	5.0	.7					6.4	6.0	6.1	15.6
Ohio	194.2	130.8	552.0	338.3	23.7	3.0	6.3	.8	8.0	1.1					5.0	6.2	5.1	3.1
Wisconsin	22.4	23.8	213.3	206.2	38.0	4.8	10.0	1.3	5.0	.7					2.0	2.8	2.7	22.1
Minnesota	6.2	6.4	188.5	178.2											2.4	3.4	2.6	23.4
Total	793.7	503.5	2,236.3	1,486.0	301.4	38.2	79.6	10.1	82.0	11.7					31.8	49.4	32.3	73.4
VI																		
Arkansas	47.4	97.4	59.3	110.8											5.8	.4	.5	.8
Louisana	191.4	201.5	127.5	122.2											1.4	1.0	2.2	6.5
Texas	301.0	157.4	587.3	279.5	1,498.2	190.3	395.8	50.3							8.2	8.0	6.3	8.1
New Mexico	3.6	3.3	48.5	39.2	65.0	8.3	34.0	4.3							.6	1.8	1.1	97.1
Oklahoma	32.1	31.1	117.5	103.3											.8	1.4	2.5	101.4
Total	575.5	490.7	940.1	655.0	1,563.2	198.6	429.8	54.6							16.8	12.6	12.6	213.9
VII																		
Iowa	5.0	7.7	120.9	169.1											.8	1.2	1.1	3.0
Kansas	18.8	19.8	106.5	102.1	28.5	3.6	7.5	1.0							1.0	2.8	2.4	7.8
Missouri	89.4	78.4	222.5	177.3	19.0	2.4	5.0	.6							2.0	3.0	3.0	3.0
Nebraska	6.5	8.4	69.3	81.0	11.9	1.5	3.1	.4							.6	1.8	.9	8.1
Total	119.7	114.3	519.2	529.5-	59.4	7.5	15.6	2.0							4.4	8.8	7.4	21.9
VIII																		
Colorado	13.7	7.7	131.9	53.3	46.7	5.9	12.3	1.6							1.4	14.0	2.4	6.5
Montana	.3	.5	28.3	46.2											.4	1.2	1.0	32.5
North Dakota	.2	.6	20.1	47.3											.2	.2	.3	18.2
South Dakota	.2	.6	21.3	49.5											.1	.2	.1	39.3
Utah	1.4	.7	63.0	28.7	11.9	1.5	3.1	.4							1.2	8.6	1.2	10.4
Wyoming	.4	.6	14.8	18.1											.4	1.0	.3	6.5
Total	16.2	10.7	279.4	243.1	58.6	7.4	15.4	2.0							3.7	25.2	5.3	113.4
IX																		
Arizona	11.2	5.9	97.0	46.5	244.4	31.0	64.6	8.2							6.0	3.0	2.4	130.0
California	338.5	69.5	1,224.7	229.5	1,698.0	215.6	300.0	38.1	17.0	2.4					211.0	314.0	144.0	97.5
Hawaii	1.7	.7	18.1	7.1					15.0	2.1					ND	ND	ND	.7
Nevada	6.0	2.9	27.5	12.1											1.2	1.0	1.0	10.4
American Samoa	ND	ND	ND	ND														
Trust Territory	ND	ND	ND	ND	Null	Null	Null	Null	Null	Null	Null	Null	Null	Null	21.5	50.0	43.0	Null
Guam	ND	ND	ND	ND														
Wake Island	ND	ND	ND	ND														
Total	357.4	79.0	1,367.3	295.2	1,942.4	246.6	364.6	46.3	32.0	4.5					239.7	368.0	221.0	238.6

Table A-2 Estimated Number of Black and White People whose Income Is Below the Poverty Line [a], Estimated Population of Chicanos, Puerto Ricans, and Cubans, and Numbers of Those Persons Below Poverty Line [e], and Distribution of People of Asiatic Extraction and American Indians--Continued

Region and State	Black		White[d]		Chicano				Puerto Rican				Cuban		Chinese	Japanese	Other Asiatic	American Indian
					Urban		Rural		Urban		Rural							
	Urban[b]	Rural[b]	Urban[b]	Rural[b]	Population	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	Population[b]	Below poverty line[b]	(×1,000)	(×1,000)	(×1,000)	(×1,000)
X																		
Alaska	1.1	2.5	8.7	17.3											.2	1.0	49.6	1.6
Idaho	.3	.5	28.7	45.5											.6	4.0	.8	7.8
Oregon	4.6	4.6	103.6	273.8											6.0	10.0	4.1	13.0
Washington	13.6	10.6	179.3	126.4	30.1	3.8	7.9	1.0							12.0	34.0	16.3	29.9
Total	19.6	18.2	320.3	460.3	30.1	3.8	7.9	1.0							18.8	49.0	70.8	52.3
Total all States	3,582.7	3,525.1	9,775.7	6,818.1	[j]4,117.4	[k]522.6	955.6	[m]145.9	[n]4,152.0	[o]1,059.0	ND	ND	[p]565.0	[q]57.1	[s]532.2	[t]975.5	[u]733.7	[v]827.5

[a] Based on 1970 census data and 1968 ratios of the percentages of such individuals.

[b] All figures are times 1,000.

[c] ND = No data found.

[d] Includes Chicanos and other Spanish surnames. See table A-1 for additional information.

[e] Based on 1969 data, U.S. Census Bureau, **"Population Characteristics, Persons of Spanish Origin in the United States, 1969."**

[f] Nil is used to indicate values too small to consider.

[g] See footnotes "j" through "q" for additional information concerning States left blank.

[h] Unknown.

[i] Value unknown.

[j] Includes 138,600 distributed throughout the States left blank.

[k] Includes 17,500 distributed throughout the States left blank.

[l] Includes 36,400 distributed throughout the States left blank.

[m] Includes 21,900 distributed throughout the States left blank.

[n] Includes 85,000 distributed throughout the States left blank. Of the 4,152,000, 2,698,000 are in Puerto Rico and 1,454,000 in the United States.

[o] Includes 9,600 distributed throughout the States left blank and an estimated 862,500 in Puerto Rico that was not included in the table.

[p] Includes 101,000 distributed throughout the States left blank. An additional 556,000 are of Central or South American origin. These are not included here but many of them presumably would be considered disadvantaged.

[q] Data concerning distribution by State were not found. Of the 565,000, some 82,000 or 14.5 percent, are in Arizona, California, Colorado, New Mexico, and Texas. A large portion of the remaining 483,000 are at the Cuban Refugee Center in Miami. We estimate this number to be as high as 120,000. The remainder are mostly people who have been resettled in other parts of the United States.

[r] 1970 estimates, based on 1960 ratios and 1970 population.

[s] Includes an additional 82,000, some of whom are in Hawaii.

[t] Includes an additional 406,000, some of whom are in Hawaii.

[u] Includes an additional 307,900, some of whom are in Hawaii.

[v] Of these 477,500 are reservation Indians and 350,000 are not.

areas—a neighborhood or an institution. Handicapped persons tend to be dispersed throughout the population, although there is a bias that often results in proportionately more handicapped people in economically disadvantaged areas because of lesser access to medical care, less awareness of early signs of illness, and less preventive medicine.

The grouping of handicapped people is, essentially: blind, deaf, immobile, aged, and others. However, we eliminated the category "other" and reorganized the handicapped into groups that reflect handicaps likely to be debilitating with respect to the individual's use of library services. The new groups—severely visually handicapped, hearing and speech disorders, paralyzed, and amputees—include significant numbers of individuals who are limited in the use of library facilities.

Not all handicapped people are limited in terms of performing functions that would enable them to use the library. We used DHEW estimates of the number of people in each handicapped group considered to be so severely handicapped that they cannot function effectively enough to use public library services. Thus, while there are large numbers of individuals who suffer from hearing impairments, only 5 percent of them are considered to be limited in any significant way, while approximately 25 percent of persons with visual defects are considered severely handicapped. Appropriate percentages were applied to each of the various groups and are reflected in table A-5, which presents the numbers of handicapped and aged persons in the several States and territories.

There are some special problems related to quantifying the number of people who are handicapped by reason of age. For one thing, many older people have other handicaps and therefore would be included among the handicapped. (The age distribution of the handicapped is markedly skewed toward the high end.) But the basic problem stems from the difficulty of picking an age above which most people may be considered handicapped insofar as their ability to use library services. We arbitrarily picked age 75, primarily because census data are categorized as from 65 to 74 and 75 and over. We felt that relatively few people in the 65 to 74 group would be limited and, although some in the over 75 group would not be, most would likely be limited. The data in table A-5 compensate for the omission of the lower age group by overestimation of the higher age group. Note that many of these older people are in nursing homes or other special care facilities. However, we have not determined their actual number, since most such places have rather small populations and, with some exceptions, each individual's situation with respect to needs for library services is likely to be the same whether he is in a facility or confined at home.

Table A-3 Number of Persons Hospitalized for Long Terms, by Type of Hospital and number of Hospitals of each Type [a]

Region and State	Long-term hospitalized (excluding federal)		Mental hospitals (excluding federal)		Institutions For Mentally Retarded (Excluding Federal)	
	Number of institutions [b]	Population	Number of institutions	Population (×1000)	Number of institutions	Population (×1000)
I						
Connecticut	8	1,434	4	6.1	4	4.1
Maine	1	113	3	2.8	1	.9
Massachusetts	24	[c]2,783	14	15.1	5	8.0
Rhode Island	1	66	2	1.9	1	.9
New Hampshire		([d])	1	2.2	1	1.1
Vermont		([d])	1	1.0	1	.7
Total	34	4,396	25	29.1	13	15.7
II						
New York	22	[c]6,819	24	79.0	16	27.6
New Jersey	10	[c]1,487	12	16.8	6	6.7
Puerto Rico	ND	ND	ND	ND	ND	ND
Virgin Islands	ND	ND	ND	ND	ND	ND
Total	32	8,306	36	98.5	22	34.3
III						
Delaware	3	1,173	2	1.4	1	.5
District of Columbia	3	875	1	5.5	1	1.3
Maryland	9	1,910	7	7.7	2	3.1
Pennsylvania	24	[c]5,823	20	30.8	9	11.6
Virginia	3	572	5	11.4	2	3.6
West Virginia	3	642	5	4.6	1	.5
Total	45	10,995	40	61.4	16	20.6
IV						
Alabama		([d])	2	7.7	1	2.3
Florida	2	646	4	9.6	5	5.6
Georgia	2	382	3	10.8	1	1.8
Kentucky	9	552	4	3.9	2	1.1
Mississippi	6	[c]1,330	2	5.1	1	1.3
North Carolina	11	[c]1,100	4	8.3	4	4.7
South Carolina	3	663	3	5.9	2	3.3
Tennessee	7	1,180	5	7.0	2	2.3
Total	40	5,853	27	58.3	18	22.4

Table A-4 State Prisons and Correctional Facilities and Their Populations [g]

Region and State	Number of institutions	Population (×1000)
I		
Connecticut	3	1.6
Maine	3	.6
Massachusetts	7	1.8
Rhode Island	2	.4
New Hampshire	1	.2
Vermont	2	.2
Total	18	4.8
II		
New York	[h]18	14.0
New Jersey	3	4.6
Puerto Rico	ND	ND
Virgin Islands	ND	ND
Total	21	18.6
III		
Delaware	3	.3
District of Columbia	3	1.2
Maryland	5	5.0
Pennsylvania	10	5.7
Virginia	8	4.0
West Virginia	3	1.2
Total	32	17.4
IV		
Alabama	[h]10	3.8
Florida	10	7.3
Georgia	20	5.3
Kentucky	3	2.8
Mississippi	1	1.6
North Carolina	10	5.5
South Carolina	8	2.3
Tennessee	4	3.0
Total	66	31.6

Table A-3 Number of Persons Hospitalized for Long Terms, by Type of Hospital and Number of Hospitals of Each Type [a]—Continued

V						
Illinois	17	[c]3,749	17	21.6	6	9.1
Indiana	4	[c]181	10	9.9	3	3.8
Michigan	7	[c]594	10	14.6	10	12.9
Ohio	15	917	22	20.4	5	9.6
Wisconsin	14	1,226	42	11.5	3	3.6
Minnesota	4	162	8	4.2	6	5.2
Total	61	6,829	109	82.2	33	44.2
VI						
Arkansas		(4)	2	1.7	1	.8
Louisiana	4	468	3	5.1	4	2.8
Texas	15	[c]2,734	8	14.3	6	10.4
New Mexico	4	374	1	.6	1	.8
Oklahoma	4	261	4	3.9	3	2.3
Total	27	3,837	18	25.6	15	17.2
VII						
Iowa	3	169	6	1.4	2	1.7
Kansas	3	677	3	2.1	3	2.0
Missouri		(4)	8	7.5	4	2.6
Nebraska	3	[c]90	4	2.1	1	2.1
Total	15	935	21	13.1	10	8.4
VIII						
Colorado	5	[c]425	2	1.6	2	2.5
Montana	2	344	1	1.3	2	.9
North Dakota	1	266	1	1.2	1	1.5
South Dakota	2	175	1	1.3	2	1.2
Utah	1	42	1	.5	1	.8
Wyoming		(4)	1	.5	1	.6
Total	11	1,252	7	6.4	9	7.5
IX						
Arizona		(4)	1	1.1	1	1.0
California	5	2,366	12	18.9	7	13.4
Hawaii	7	[c]763	1	.6	1	.8
Nevada		(4)	1	.5	(5)	(5)
American Samoa	ND	ND	ND	ND	ND	ND
Trust Territory	ND	ND	ND	ND	ND	ND
Guam	ND	ND	ND	ND	ND	ND
Wake Island	ND	ND	ND	ND	ND	ND
Total	12	3,129	15	21.1	9	15.2

Table A-4 State Prisons and Correctional Facilities and Their Populations [g]—Continued

4	7.0
3	4.0
[h]9	7.0
7	10.0
5	2.6
3	1.6
31	32.2
2	1.6
2	4.1
14	12.3
3	1.0
2	2.7
23	21.7
5	1.8
4	2.3
5	3.2
2	1.9
16	9.3
2	2.5
1	.5
1	.2
2	.5
1	.7
1	.3
8	4.7
1	1.6
[h]14	27.7
3	.8
1	.6
ND	ND
ND	ND
ND	ND
ND	ND
19	30.7

Table A-3 Number of Persons Hospitalized for Long Terms, by Type of Hospital and Number of Hospitals of Each Type[a]—Continued

Region and State	Long term hospitalized (excluding federal)		Mental hospitals (excluding federal)		Institution For Mentally Retarded (Excluding Federal)	
	Number of institutions[b]	Population	Number of institutions	Population (×1000)	Number of institutions	Population (×1000)
X						
Alaska			1	.2	1	1.0
Idaho		(e)	2	.6	1	.2
Oregon	1	(e)	3	2.2	3	3.0
Washington	3	57 325	3	2.9	4	3.6
Total	4		9	5.9	9	8.3
Total all States	281	[f]54,914	307	398.9	154	193.8

Table A-4 State Prisons and Correctional Facilities and Their Populations[g]—Continued

Number of institutions	Population (×1000)
6	4
1	4
2	1.8
7	2.7
16	5.3
250	174.9

[a] Long term hospital data from American Hospital Association, 1970 data; other data from 1970 Statistical Abstract of the United States, 1968 data.

[b] Includes long term hospitals for tuberculosis and other respiratory diseases, geriatrics, rehabilitation hospitals, and chronic disease hospitals.

[c] These 14 States had a total of 19 hospitals for which population figures were not given.

[d] The number of patients at those hospitals was estimated and included in the total population (see note f below).

[e] These 9 States did not list hospitals of the type identified in note b above. Estimates for patients in other hospitals are included in the total population (see note f below).

Mentally retarded individuals in Nevada are kept in mental hospitals.

[f] The column total is greater than the sum of the individual States by 9,000. This is to account for an additional estimated 3,600 patients in hospitals that did not report patient population (note c above, based on average hospital population of the States in which such data were missing) and an estimated 5,400 patients in hospitals not included in the AHA report (note d above, based on supplemental information concerning long term hospitalization).

[g] Based on 1967 data source, "National Prisoner Statistics," U.S. Bureau of Prisons, 1969.

[h] Includes road camps.

REVISED ESTIMATES OF SPECIAL CLIENTELES

The United States Excluding the Territories

The population of the several groups from which the special clienteles come, and a tentative number of special clienteles by type are contained in table A–6 for the 50 States and the District of Columbia. The distribution of special clienteles in the six territories is not discussed in this paper. In constructing table A–6 we summarized the data from table A–2 (i.e., those whose income is below the poverty level) for the blacks, whites, and Spanish-speaking; for the Asiatics and Indians, we similarly included only those below the poverty level. Table A–6 indicates the distribution of special clienteles for the United States as a whole. Similar tables can be constructed for any State or region, as required.

For a number of reasons that are discussed below, the data in table A–6 were considered unrealistic. We therefore applied a number of correction factors to estimate more realistically the number of people in each special clientele group. These revised estimates are contained in table A-7. The correction factors differ for each group for which we made revisions, and are summarized below.

A review of the data in table A–6 reveals a disproportionate weighting (approximately 51 percent) in favor of disadvantaged whites, reflecting the predominantly white population of the United States. Most of the aged and most of the Spanish-speaking are included among the whites – suggesting that the figures need to be adjusted to account for the overlap. The figures should also be adjusted to account for the fact that using "below poverty level" as a criterion excludes some people that should be included as special clienteles for the purposes of this study; for example, many of these individuals may be considered culturally deprived even though they are not below the poverty level. Although we had no data on the number of individuals

Table A–5 Distribution of the Physically Handicapped People: Limited to Those With Severe Handicaps [a]; and Persons Over 75 Years of Age [b]

Region and State	Visually handicapped (×1,000)	Speech and hearing disorders (×1,000)	Paralyzed (×1,000)	Amputees (×1,000)	Population over 75 (×1,000)
I					
Connecticut	14.0	8.4	13.0	1.6	42.9
Maine	4.0	2.9	4.0	.4	17.5
Massachusetts	27.0	11.5	24.0	3.0	90.4
Rhode Island	4.0	2.8	4.0	.4	14.8
New Hampshire	3.0	1.6	3.0	.4	11.3
Vermont	2.0	1.2	1.8	.2	7.0
Total	54.0	28.4	49.8	3.3	183.9
II					
New York	8.0	51.0	79.0	9.6	274.4
New Jersey	34.0	20.0	31.0	3.6	96.9
Puerto Rico	18.0	5.3	11.0	1.2	ND
Virgin Island	.6	.2	.4	Nil	ND
Total	60.6	76.5	121.4	14.4	371.3

Table A–5 Distribution of the Physically Handicapped People; Limited to Those With Severe Handicaps [a]; and Persons Over 75 Years of Age [b]—Continued

Region and State	Visually handicapped (×1,000)	Speech and hearing disorders (×1,000)	Paralyzed (×1,000)	Amputees (×1,000)	Population over 75 (×1,000)
III					
Delaware	5.0	2.0	3.0	.3	6.1
District of Columbia	7.0	3.4	4.0	.4	8.7
Maryland	37.0	17.0	22.0	2.4	38.9
Pennsylvania	56.0	33.0	51.0	6.0	135.9
Virginia	44.0	20.0	26.0	3.0	49.2
West Virginia	16.0	7.0	10.0	1.2	31.4
Total	165.0	82.4	116.0	13.3	320.2
IV					
Alabama	33.0	15.0	20.0	2.0	45.8
Florida	64.0	29.0	38.0	4.0	153.7
Georgia	43.0	19.0	26.0	2.8	47.2
Kentucky	31.0	14.0	18.0	2.0	52.8
Mississippi	21.0	10.0	17.0	1.2	33.2
North Carolina	48.0	22.0	29.0	3.2	55.9
South Carolina	28.0	12.0	15.0	1.6	23.7
Tennessee	37.0	17.0	22.0	2.4	55.3
Total	301.0	138.0	185.0	19.2	467.6
V					
Illinois	64.0	40.0	52.0	6.4	160.4
Indiana	30.0	18.0	24.0	3.2	74.3
Michigan	51.0	31.0	41.0	5.2	115.0
Ohio	61.0	38.0	50.0	6.8	151.5
Wisconsin	26.0	15.0	21.0	2.8	77.0
Minnesota	22.0	14.0	18.0	2.4	69.6
Total	254.0	156.0	206.0	26.8	647.8
VI					
Arkansas	18.0	8.0	11.0	1.2	39.1
Louisiana	35.0	16.0	21.0	2.0	41.1
Texas	106.0	48.0	63.0	6.8	140.7
New Mexico	5.0	4.6	5.0	.4	11.3
Oklahoma	24.0	11.0	15.0	1.6	45.6
Total	188.0	87.6	115.0	12.0	277.8
VII					
Iowa	16.0	10.0	13.0	1.6	58.3
Kansas	13.0	8.0	10.0	1.2	43.4
Missouri	27.0	17.0	22.0	2.8	86.0
Nebraska	9.0	4.8	7.0	.8	31.5
Total	65.0	39.8	52.0	6.4	219.2
VIII					
Colorado	11.0	9.1	11.0	.8	30.1
Montana	4.0	3.2	4.0	.2	13.2
North Dakota	3.0	2.4	3.0	.4	12.0
South Dakota	4.0	2.5	3.0	.4	14.4
Utah	5.0	4.8	5.0	.4	12.0
Wyoming	2.0	1.4	2.0	.1	5.3
Total	29.0	23.4	28.0	2.3	87.0
IX					
Arizona	9.0	8.0	9.0	.8	23.9
California	102.0	81.0	99.0	8.0	262.7
Hawaii	4.0	3.2	4.0	.3	6.8
Nevada	2.0	2.0	2.0	.2	4.5
American Samoa	Nil	Nil	Nil	Nil	ND
Trust Territory	.6	.2	.5	Nil	ND
Guam	.6	Nil	.4	Nil	ND
Wake Island	Nil	Nil	Nil	Nil	ND
Total	118.2	94.4	114.9	9.3	297.9
X					
Alaska	2.0	1.2	1.2	.1	1.2
Idaho	4.0	2.8	4.0	.2	12.0
Oregon	11.0	8.0	10.0	.8	37.4
Washington	17.0	14.0	17.0	1.2	52.4
Total	34.0	26.0	32.2	2.3	103.0
Total all States	1,268.8	754.5	1,015.3	109.3	2,975.7

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[a] Based on 1970 census and 1968 ratios of handicapped types.

[b] 1970 census data.

Table A–6 Population of the United States by Group and Number of People in Special Clientele Groups

Group	Total United States (excluding territories)		Tentative number of special clientele a	Percent of group included as special clientele	Distribution of special clientele in percent
	Population (X1,000)	Percent of population in group	(X1,000)		
Black	22,673.0	11.2	7,107.8	31.4	21.9
White	177,612.0	87.4	16,593.8	9.3 b	51.2
Chicano	5,073.0 c	(c)	668.5	13.1	2.1
Puerto Rican (in United States)	1,454.0 c	(c)	195.6	13.5	.6
Cuban	565.0 c	(c)	57.1	10.1	.2
Chinese	510.7 d	.2	106.4	20.8	.3
Japanese	925.5 d	.5	117.0	12.6	.4
Other Asiatic	617.1 d	.3	136.4	22.1	.4
American Indian	827.5	.4	493.4	59.6	1.5
Hospitalized—long term	(e)	(e)	54.9	NA	.2
Hospitalized—mentally ill	(e)	(e)	398.9	NA	1.2
Hospitalized—retarded	(e)	(e)	193.8	NA	.6
Inmates—correctional facilities	(e)	(e)	174.9	NA	.5
Visually handicapped	(e)	(e)	1,268.8	NA	3.9
Speech and hearing disorders	(e)	(e)	754.5	NA	2.3
Paralyzed	(e)	(e)	1,015.3	NA	3.1
Amputees	(e)	(e)	109.3	NA	.3
Aged	(e)	(e)	2,975.7	NA	9.2
Total	203,165.8	100.0	32,422.1	....	99.9

NOTES

a From tables A–2 through A–5.
b Includes all whites below poverty line. Appalachian whites below poverty line=3,156,600.
c Included in black or white population, not added to population total.
d Does not include Asiatics in the territories.
e Included in other groups, population same as number of special clientele.

that may be considered culturally deprived, there are data on languages spoken in the home and we postulated that this is a good measure of cultural deprivation and likely includes almost all who are economically disadvantaged.

To complete the estimates of the total number of special clienteles in the United States, we included three categories in table A–7 not included in table A–6: Other Spanish-speaking migrants, and those not already included for whom English is a second language (ESL).

We found no data concerning the distribution of people by State for these categories, and did not include them in the tables earlier in this section. However, we were able to obtain or make estimates of the total number of such individuals in the United States.

We also reduced the black and white population by the number of Spanish-speaking, since virtually all Spanish speakers are either black or white. We reduced the black and white populations by 20 and 80 percent, respectively, of the Spanish-speaking population. All of these adjustments are reflected in table A–6. We did not adjust for the distribution of migrants, other ESL's, or other Spanish speaking according to ethnic type, since we had no data on their distribution by ethnic type and their numbers are sufficiently small to produce only slight impact on the various groups, especially white and black.

From the data contained in table A–7 we conclude that the need for special library services, based solely on the number of special clientele in each group, is greatest among the disadvantaged whites,

Table A–7 Revised Estimates of the Number of Special Clienteles in the United States [a]

Group	Number of special clientele (from table A–9) (X1,000)	Adjusted number of special clientele (X1,000)	Percentage of group included in special clientele [b]	Distribution of special clientele in percent
Economically disadvantaged black	7,107.8	5,206	22.9	20.4
Economically disadvantaged white	16,593.8	7,786	43.8	30.5
Chicano	668.5	1,932	38.1	7.6
Puerto Rican (in States)	195.6	1,030	70.1	4.0
Cuban	57.1	300	53.0	1.1
Other Spanish speaking [c]	....	301	....	1.1
Chinese	106.4	126	24.6	.5
Japanese	117.0	136	14.6	.5
Other Asiatics	136.4	212	34.3	.8
American Indian	493.4	547	66.1	2.1
Migrants [c]	....	279	....	1.1
ESL's not included above [c]	....	700	....	2.7
Hospitalized—long term	54.9	55	NA	.2
Hospitalized—mentally ill	398.8	399	NA	1.6
Hospitalized—retarded	193.8	194	NA	.8
Inmates—correctional facilities	174.9	175	NA	.7
Visually handicapped	1,268.8	1,269	NA	5.0
Speech and hearing disorders	754.5	754	NA	3.0
Paralyzed	1,015.3	1,015	NA	4.0
Amputees	109.3	109	NA	.4
Aged	2,975.7	2,976	NA	11.6
Totals	32,422.1	25,501	....	99.7

[a] Includes the 50 States and the District of Columbia; excludes the territories.
[b] Based on proportion of the population of each type (see table A–6).
[c] Not included in table A–6.

with the black, aged, and Chicano being the next three significant groups in that order. Furthermore, these constitute about 70 percent of the need numerically. Conversely, the Asiatics constitute less than 2 percent, and so on. However, the proportions do tend to favor some groups disproportionately and all but eliminate others. Thus, no quantification scheme can be relied upon to eliminate the need for rational judgment.

III. Needs of the Economically, Physically, and Socially Disadvantaged

Although the conference attendees were asked to state reasons why the library and information needs of the groups each attendee "represented" should be served, it seems self-evident, from the numbers of the disadvantaged and the known fact that they do not now receive the same service enjoyed by the nondisadvantaged, that a significant effort is necessary to serve them. One of the tenets of democracy being "equal opportunity to all," no more need be said.

The following portions of this paper will discuss the findings of the LSCA study with respect to the extent to which needs are now filled.

LSCA STUDY OF USER NEEDS

In carrying out the data collection activities of the project we expanded the initial list of special clienteles (table A-1) into that contained in table A–8. This is because more than 80 percent of the projects were found to serve a combination of user groups. A frequency count was made to reveal the number of occurrences of different combinations. As a result of that count, 4 user group combinations frequently found were added to the original 20. To account for the remaining projects—those that did not serve one of the original 20 groups or 1 of the 4 unique combinations—5 other classifications were added.

Table A–8 Special Clientele Groups

Disadvantaged blacks.
Disadvantaged whites.
Mexican-Americans.
Cubans.
Puerto Ricans.
Other Spanish speaking.
Chinese.
Japanese.
Filipinos.
Other Asian-Americans.
American Indians.
Migrants.
Hospitalized.
Persons in nursing homes.
Persons in training schools.
Inmates.
Physically handicapped.
Aged.
Disadvantaged blacks and whites.
Other combinations of disadvantaged.
Persons in hospitals, nursing homes.
Other institution combinations.
Handicapped and aged.
Hospital, nursing, handicapped, aged.
Disadvantaged and institution.
Disadvantaged and handicapped.
Institution and handicapped.
Disadvantaged, institution, handicapped.
All others.

Five separate interview forms were used during the site-visit phase of the project. On each form the final instructions to the interviewer required that that individual indicate on the form the group to which the interviewee apparently belonged. The groups interviewed were designated "Observed Clientele Groups" (see table A–9). These groups had been created as being reasonably identifiable by the interviewer without the need to interrogate the interviewee.

Table A–9 Observed Clientele Groups

Race or ethnic characteristics
Economically disadvantaged black.
Economically disadvantaged white.
Spanish-speaking (Mexican-American, Cuban, Puerto Rican, etc.) (first or only language).
Asians (Chinese, Japanese, Filipino, etc.).
American Indian.
Other non-English speaking.
Migrants.
Other characteristics
Hospitalized.
Person in residential training school.
Person in nursing home or other extended-care facility.
Inmate of correctional facility.
Other institutionalized.
Physically handicapped, including blind.
Aged.

CONDUCT OF THE STUDY

The study of user needs during this project was conducted in three stages: A preliminary identification of needs, a collection of needs as identified in questionnaires, and onsite data gathering. These three stages are described below.

Preliminary Identification of Needs

At the beginning of the study, the project staff conducted a data-gathering effort to identify library services needs of the special clienteles or to find needs of those groups that had been identified in the literature. This was necessary to enable the project staff to identify needs that could be used to develop survey instruments for designing the study. In addition, representatives of various disadvantaged segments of the population were convened for a discussion of library activities and practices and the needs that each felt were significant. The group was convened from the Los Angeles area, and included representatives of different ethnic groups, physically handicapped, and formerly institutionalized persons. In small groups participants discussed their real feelings about present library services, feelings of their community or colleagues about the library, and needs for library service that are not being met.

In addition to the meeting, the project staff conducted a few informal interviews with spokesmen for disadvantaged groups in the Los Angeles and Washington, D.C., areas, to identify library needs and learn their feelings about library service to their communities.

As a result of these activities, the project team was able to assemble a document that provided a very preliminary list of some needs for library services that are expressed by members of the different special clienteles. This information provided a strong input to the data-gathering instruments from which the needs presented in this section are derived.

Questionnaire Data on Needs

A questionnaire was sent to the State library agencies that included an open-ended question about user needs. It was intended to gather general information that the State library agencies could provide regarding their conception of user needs of special clienteles. The results were quite uneven. Approximately 50 percent of the respondents provided answers to the question concerning user needs. The answers were quite varied, ranging from the very specific (e.g., Minibuses) to the very general (e.g., Program for the Disadvantaged). The wide variety of answers cannot be easily summarized, but are, to some extent, covered by the list of needs in table A–10.

Onsite Data

Data Gathering. The most useful data concerning user needs were gathered during field-site visits and interviews. Each of the five questionnaires—Project Director, Other Librarian, Related-Agency Personnel, User, and Nonuser—sought information on the respondent's perception of the library service needs of the particular category of user for whom the project was intended.

The questions relating to user needs differed from one questionnaire to another, because the type of respondent and the type of interview for each suggested different ways of seeking the information. For example, questions to project directors and other librarians were open-ended, while questions to related-agency personnel and users and nonusers were structured. In addition, response options differed for pusposes of tailoring the questionnaire to the level of respondent awareness, interest, and expertise.

As a result, the use of different questions on the five instruments

Table A–10 List of 31 Needs

Code	Need
1	General or traditional library services.
2	Entertainment programs (crafts, story hours, etc.).
3	Instruction classes and materials for adults.
4	Transportation of people or materials.
5	Additional hours.
6	Additional or improved facilities.
7	Books (general).
8	Large-print books.
9	Low-vocabulary high-interest books for adults.
10	Ethnic materials.
11	Periodicals.
12	Foreign-language materials.
13	Health and drug-abuse information and materials.
14	Job information and vocational materials.
15	Child-care information.
16	"How to" books and pamphlets (do-it-yourself, hobbies, etc.).
17	English-language books or instruction.
18	Consumer and legal information and materials.
19	Audiovisual devices.
20	Recordings (including talking books).
21	Films.
22	Miscellaneous equipment.
23	Nonbook materials (general).
24	Additional funds.
25	Additional staff members.
26	Bilingual or ethnically similar staff.
27	Volunteers or aides.
28	Inservice training.
29	More publicity.
30	More community involvement.
31	Interlibrary or interagency cooperation.

required that the different responses be categorized, to provide a common list of needs that could be compared across projects, groups of users, and types of respondents. In some instances, respondents were asked directly about their needs (e.g., "Do you have a need for _____?"), whereas in other cases, oblique questions were asked (e.g., "What are some of the operational problems of the project?").

The project staff studied the response categories in the three instruments in which the responses were structured, and the different responses to the open-ended questions in the project director (P) and librarian (L) instruments. The staff then developed a master list of 31 needs (table A–10). The list is not specific; for example, the category "Entertainment Programs" does not specify the kind of entertainment desired in each case, and the "Books (general)" category does not specify a kind of book. But the categories are useful and are felt to be the most mutually exclusive subdivision that the staff could devise while the uniqueness of each type of need was preserved.

The needs data obtained from the onsite visits are presented in three parts. First are the data obtained from the "officials" – i.e., Forms P, R, and L respondents; then, the data that were obtained from the clienteles and targeted populations – i.e., Forms N and U respondents. Then, there is a synthesis that summarizes the needs of special clienteles.

Form P, R, and L Respondents Data. Project directors, and librarians on the library staff who were not part of the project, were asked about the needs of the special clienteles and about what methods they used to identify those needs. Those methods are shown in table A-11.

Personnel in related agencies were interviewed primarily concerning the success and failure of projects and problems associated with projects; however, some need data were obtained from them.

Data were collected on the special clientele needs as expressed by project related personnel, in terms of the importance of the needs as seen by the respondents. The data for all clientele groups were combined, since the data were generally evenly distributed across groups, with the exceptions noted below.

As previously indicated, there were several exceptions to the general pattern of equal distribution of needs as a function of clientele type. These were all in what might be considered predictable areas. Specifically, there were significantly higher expressed needs for:

- Ethnic materials.
- Foreign language materials.
- Large-print books.

The most interesting data were the number of respondents expressing that a particular need exists, or, does not exist. To examine these data more meaningfully, the results were transposed into rank order. Several striking factors emerge from the data in table A-12. First, an overwhelming feeling among both types of respondents of a need for instructional classes showed itself. This is a departure from traditional library roles expressed by both project directors and librarians. There was also a very strong feeling in both sets of respondents that transportation and large-print books are highly significant needs. Other significant needs can be seen in the table. At the low end of the spectrum, there was, somewhat surprisingly, a concurrence that more staff and more funds were not important needs. This is especially surprising with respect to funds, since a significant number of librarians had indicated that insufficient funding was a problem. Probably, the respondents did not think of funds as a clientele need.

There was remarkable consistency in the response patterns of both types of respondents. About the only notable divergence were needs 10 (ethnic materials) and 16 (how-to books . . .) where 28.6 and 26.8 percent of the project respondents, respectively, felt the two needs were important. This contrasts with 5.3 percent each for the two needs as reported by librarian respondents. We suspect the higher rating by project personnel reflects closer contact with the clientele they serve and is a better estimate than the nonproject librarian respondent estimate. All other needs were sufficiently close, when compared in rank order or in terms of percent expressing, to allow for a consensual expression of needs.

Responses from Related Agency Personnel were not directly comparable to the needs reported by project and library respondents. We tallied responses to the question "Have you any specific suggestions for making the project more effective or having it better serve the

Table A–11 Methods To Identify User Needs as Reported by Library (L) and Project (P) Personnel

Method	Percent reporting use of this method
1. Target area survey	14
2. Ad hoc committees	5
3. Brainstorming session	6
4. Asking professional library agencies and professional librarians	21
5. Interviewing target-group spokesman	18
6. Observation	
a. Knowledge of community based on residing there	1
b. Research and study	1
c. Talking to other agencies' representatives	2
d. Years of experience (own personal, working in district or projects)	3
e. Requests for materials (by patients or from requisitions)	2
f. Feedback from fieldworker	2
g. Working with:	
1. Advisory committee	1
2. Residents of target area	1
h. Personal professional opinion	3
i. Talking with user	4
j. Personal ideas	2
k. Preview of films (prior to purchase)	1
l. Visited models of other operations concerning field or ones in use.	2
1. Libraries	
2. Nursing homes	
m. Weekly evaluation of user's needs	1
n. Sitting in or class sessions	1
o. Relying on information from:	
1. Referral staff at health and welfare council	2
2. School academic director	
3. State librarian	
p. Consulting library staff working on and planning project	1
q. Observing necessary part of program	1

needs of special clientele?" Since the question was not directed toward needs, we did not expect that responses would correspond to need statements. However, 398 responses could be coded as need statements, and we rank-ordered the data. They are presented in table A–13. Here we may note a considerable variance of responses from those obtained from library and project respondents—again, this is not surprising, considering the difference in questions asked. Virtually zero correlation exists between the responses in tables A–12 and A–13. This low correlation represents a different dimension rather than a divergent view of user's needs. The dimension here is one of "what do projects need to operate more successfully," rather than "what do the users need." The fact that "more publicity" ranked No. 1 makes sense in terms of this dimension, as do many of the other rankings. For example, subject or topical areas all had very few responses. In fact, those that were offered should be given extra weight, since they were spontaneous and not related to a need question. Thus, the high-ranking responses are considered significant, but the low ones are not.

The two highest ranking responses were "more publicity" and "more community involvement." Neither of these was especially significant in the L and P responses, but both suggest project needs (as opposed to user needs) as seen by people who know the community and the projects. The third-ranking response was "additional staff" which was rather low in the P and L responses. This fits with the con-

Table A–12 A Comparison of the Rank Order of Users Experienced by Forms P and L Respondents

Needs (Form P)	Rank	Needs (Form L)
Instruction classes and materials for adults	1	Instruction classes and materials for adults.
Large-print books	2	Transportation of people or materials.
General or traditional library services	3	Large-print books.
Transportation of people or materials Books (general)	4	Periodicals.
Health and drug-abuse information and materials	5	Entertainment programs (crafts, story hours, etc.). Health and drug-abuse information and materials.
Ethnic materials	6	Volunteers or aides.
Periodicals "How to" books and pamphlets (do-it-yourself, etc.)	7	Books (general).
Foreign-language materials	8	English-language books or instruction. More publicity.
Entertainment programs (crafts, story hours, etc.)	9	General or traditional library services. Films. Inservice training. More community involvement.
Additional hours Job information and vocational materials Recordings (including talking books)	10	Foreign-language materials. Job information and vocational materials.
Low-vocabulary high-interest books for adults	11	Additional hours. Low-vocabulary high-interest books for adults. Ethnic materials. "How to" books and pamphlets (do-it-yourself, etc.).
Additional or improved facilities More publicity	12	Recordings (including talking books). Bilingual or ethnically similar staff.
English-language books or instruction More community involvement	13	Miscellaneous equipment.
Child-care information Consumer and legal information and materials Films Volunteers or aides Interlibrary or interagency cooperation	14	Child care information. Audiovisual devices.
Inservice training	15	Nonbook materials (general). Additional staff members. Interlibrary or interagency cooperation.
Audiovisual devices	16	Additional or improved facilities. Consumer and legal information and materials. Additional funds.
Miscellaneous equipment Additional funds Additional staff members Bilingual or ethnically similar staff	17	
Nonbook materials (general)	18	

ception presented, i.e., "what do the projects need?" It also is consistent with the data obtained from librarians who indicated that insufficient funds were a problem in a significant number of projects. Also, inadequate publicity was frequently cited as a problem by L respondents, corresponding to the view of the R respondents about the need for more publicity.

L and P respondents were asked how adequately they felt that the projects met the clientele needs that the respondents identified. Their responses are tabulated in table A–14. On an overall basis there were 232 cases where needs were not met or barely met as compared to 430 cases where they were met moderately well or were met well. This is slightly less than a 2 to 5 ratio—a significant number of cases where needs were not being met. On an individual need basis, a few cases appeared where needs were met reasonably well. These included needs 13 (health and drug abuse information and materials),

Table A-13 Rank Order Listing of Special Clientele Needs Reported by Form R Respondents

Rank	N	Percent expressing	Need
1	51	12.8	More publicity.
2	38	9.5	More community involvement.
3	31	7.7	Additional staff members.
4	29	7.3	Entertainment programs (crafts, story hours, etc.).
5	24	6.0	Additional or improved facilities.
6	21	5.2	Interlibrary or interagency cooperation.
7	20	5.0	Additional hours.
8	19	4.7	Transportation of people or materials.
9	18	4.5	Additional funds.
10	17	4.2	Books (general).
11	16	4.0	Audiovisual devices.
12	14	3.5	Instruction classes and materials for adults.
	14	3.5	Recordings (including talking books).
13	12	3.0	Nonbook materials (general).
14	9	2.3	Films.
15	7	1.8	Miscellaneous equipment.
16	6	1.5	Low-vocabulary high-interest books for adults.
	6	1.5	Ethnic materials.
17	5	1.3	Large-print books.
	5	1.3	Bilingual or ethnically similar staff.
18	3	.8	Periodicals.
	3	.8	Foreign-language materials.
	3	.8	Job information and vocational materials.
	3	.8	"How to" books and pamphlets (do-it-yourself, hobbies, etc.).
	3	.8	Consumer and legal information and materials.
19	2	.5	General or traditional library services.
	2	.5	Health and drug abuse information and materials.
20	1	.3	Child care information.

27 (volunteers or aides), 31 (interlibrary or interagency cooperation). On the other hand, in many cases the situation was quite bad with the number not being met, equaling or exceeding the number being met. This was especially the case with respect to needs 4 (transportation of people or materials), 5 (additional hours), 10 (ethnic materials), 12 (foreign-language materials), 17 (English-language books or instruction), and 20 (recordings, including talking books).

Form U and N Respondents Data. The major focus for data on the needs of the special clientele was the special clientele themselves. Both users and nonusers were asked directly what kinds of information they needed or wanted, what format or media they desired, and other questions designed to identify needs of the special clienteles.

Table A-15 indicates the kinds of materials that users borrow and want. Where "borrow" figures are already high, as with books, the strong implication is that there is a desire or need for such materials. Since this desire is being satisfied, the "want" figure is low. This is particularly so for books, somewhat for magazines, and considerably less the case for other materials. There were few cases where there was a consistently high demand for any type of material other than books and magazines. Slides, films, and tapes seem to be somewhat in demand across many of the clientele groups. There were some notable cases of high demand materials restricted to one or a few clientele. For example, 51 percent of the training school residents borrow phonograph records and another 20 percent (almost all are different individuals) express a desire for such items.

Table A–14 Adequacy With Which Clientele Needs Are Met According to Form P and L Respondents for Very Important or Moderately Important Needs

Need code	Number of Form P respondents reporting		Number of Form L respondents reporting	
	Adequacy "well" or "moderate"	Adequacy "barely" or "not"	Adequacy "well" or "moderate"	Adequacy "barely" or "not"
1	19	2	7	3
2	11	0	7	9
3	43	14	45	17
4	6	13	11	17
5	7	3	3	4
6	3	4	1	0
7	14	5	8	6
8	18	7	10	7
9	3	5	0	7
10	9	7	3	4
11	5	10	12	6
12	8	4	4	5
13	16	2	14	2
14	7	3	5	4
15	3	2	1	3
16	8	4	5	2
17	2	4	6	5
18	2	3	1	0
19	2	1	4	0
20	8	2	4	2
21	2	3	5	5
22	2	0	4	1
23	2	2	1	1
24	0	2	1	0
25	1	1	2	0
26	1	1	4	2
27	4	1	14	1
28	4	1	7	3
29	6	1	7	4
30	4	2	7	3
31	5	0	2	0
Total	225	109	205	123

The same data for nonusers are shown in table A–16. Direct comparisons between tables A–15 and A–16 are difficult because A–15 has use data, which is an index of demand, in addition to want data. A relative index that considers both "borrows" and "wants" of users would be better for comparing against nonusers; such an index, called the index percent, was created by the simple expedient of adding the two, thereby providing equal weight. This relative factor is also shown in table A–16. While not directly comparable to the percentages given for the nonusers, they nevertheless indicate where similarities and differences in demands exist.

The most striking comparison between users and nonusers, with respect to their demand for library materials, is in the difference in interest in books. The highest percentage of nonusers that were interested in book materials were found among the physically handicapped. Here 47 percent expressed an interest. Several other responses were in the 30's, and there were three cases where the percentage was zero or near zero. This compares with figures for users that were often in the 90's with the lowest case being 77 (67 borrows +10 wants). We would speculate that this very significant difference in desire for books probably reflects differences in reading skills.

Table A–15 Types of Material Borrowed or Used versus Types Wanted, by Clientele Type

NOTE: Borrows = B Wants = W	Economically disadvantaged blacks N = 119		Economically disadvantaged whites N = 72		Spanish speaking N = 18		American Indians N = 17		Migrants N = 42		Persons in nursing homes N = 40		Persons in training schools N = 65		Inmates N = 92		Physically handicapped N = 64	
Type of material	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B	W
Books	93	3	68	7	94	17	94	0	93	10	90	3	97	18	99	13	80	3
Magazines	29	23	19	10	17	11	0	18	50	12	25	5	58	11	46	13	45	6
Pamphlets	15	13	3	1	11	6	0	6	10	0	3	0	9	3	18	1	11	0
Slides or films	13	31	27	11	0	17	0	6	0	5	25	5	26	17	7	36	13	5
Slide or film projectors	3	15	15	8	0	0	0	0	0	7	0	3	17	6	4	21	9	5
Phonograph records	16	17	25	10	0	11	0	6	36	7	0	0	51	20	24	33	36	8
Tapes	14	24	4	10	0	22	0	18	2	7	5	0	32	26	5	40	41	3
Large-print materials	6	15	1	0	6	0	0	6	0	2	23	8	5	2	10	11	13	3
Exhibits	3	8	1	4	6	6	0	6	2	0	3	0	5	5	2	11	6	2
Other	8	18	10	11	0	17	0	0	14	14	3	8	18	11	10	11	16	23

Table A–15 Types of Material Borrowed or Used versus Types Wanted, by Clientele Type—Continued

NOTE Borrows = B Wants = W	Economically disadvantaged black/white N = 57		Other combined disadvantaged N = 128		Persons in hospitals nursing homes N = 20		Hospital nursing home handicapped aged N = 30		Economically disadvantaged and institutionalized N = 34		Institutionalized and handicapped N = 90		Economically disadvantaged institutionalized and handicapped N = 9		All others N = 104	
	B	W	B	W	B	W	B	W	B	W	B	W	B	W	B	W
Books	96	19	94	5	95	0	97	0	76	0	67	10	89	0	89	9
Magazines	35	6	28	3	30	0	10	0	44	12	42	12	11	44	36	11
Pamphlets	9	4	14	2	5	0	0	0	6	6	6	9	11	33	10	4
Slides or films	9	21	20	12	0	0	0	10	0	21	1	29	0	78	9	12
Slide or film projectors	2	16	9	10	0	0	0	7	0	21	2	22	0	67	3	10
Phonograph records	4	33	26	24	5	5	7	3	0	24	36	14	0	78	12	13
Tapes	0	21	13	16	0	0	3	3	0	26	19	33	0	67	4	9
Large-print materials	2	5	5	5	0	5	20	0	0	3	12	11	11	33	3	3
Exhibits	0	0	6	8	0	0	3	0	12	9	0	4	0	0	2	8
Other	12	7	10	13	0	10	7	13	24	15	13	20	11	11	6	13

Table A-16 Comparison of Demands by Users and Nonusers in Various Areas

Type of material	Special clientele group (percent*)															
	Economically disadvantaged blacks		Economically disadvantaged whites		Spanish speaking		American Indians		Migrants		Persons in nursing homes		Persons in training schools		Inmates	
	Users Index	Non N = 177	Users	Non N = 73	Users	Non N = 53	Users	Non N = 36	Users	Non N = 51	Users	Non N = 45	Users	Non N = 98	Users	Non N = 14
Books	96	39	75	11	100	13	94	11	100	37	93	16	100	38	100	36
Magazines	52	23	29	8	28	25	18	11	62	29	30	20	69	43	59	33
Slides or films	44	13	38	7	17	8	6	8	5	14	32	2	47	29	42	16
Slide or film projectors	18	11	23	0	0	6	0	6	7	14	3	0	23	21	25	13
Phonograph records	33	16	35	12	11	8	6	6	43	29	0	7	21	49	57	27
Tapes	38	13	14	3	22	4	19	3	9	10	5	2	58	43	58	16
Large print materials	21	9	1	0	6	4	6	0	2	0	31	9	2	14	21	17
Exhibits	11	11	5	1	12	2	6	6	2	2	3	0	10	12	13	9
Other	26	13	71	1	17	8	0	0	28	14	11	11	29	11	21	8

* Arbitrarily limited to 100 percent which would have been exceeded in those cases that are 100 percent

Table A-16 Comparison of Demands by Users and Nonusers in Various Areas—Continued

Type of material	Physically handicapped		Economically disadvantaged black, white		Other combined disadvantaged		Persons in hospitals nursing homes		Hospital nursing home handicapped aged		Institutionalized and handicapped		Economically disadvantaged institutionalized and handicapped		All others	
	Users	Non N = 66	Users	Non N = 66	Users	Non N = 158	Users	Non N = 25	Users	Non N = 39	Users	Non N = 51	Users	Non N = 25	Users	Non N = 238
Books	83	47	100	26	99	28	95	0	97	0	77	30	89	1	98	28
Magazines	51	42	41	18	31	17	30	4	10	3	54	28	55	2	47	21
Slides or films	38	33	30	20	32	16	0	0	10	0	29	24	78	2	21	20
Slide or film projectors	14	20	18	15	19	15	0	0	7	0	23	20	61	2	13	13
Phonograph records	14	33	37	24	50	22	10	4	10	3	50	26	78	1	25	17
Tapes	44	14	21	17	29	15	0	0	6	0	51	26	67	1	13	13
Large print materials	14	9	7	6	10	6	5	0	20	0	23	14	44	0	6	10
Exhibits	8	14	0	6	14	7	0	0	3	0	4	5	0	0	10	10
Other	39	20	19	2	23	6	10	0	20	0	33	18	22	2	17	5

The differences between users and nonusers with respect to magazines were less pronounced but still significant. The differences with respect to other, nonprint materials were slight and in many cases no differences existed between users and nonusers. The patterns of similarities and differences in demand for materials were rather consistent across most special clientele groups. The groups in which the greatest differences between users and nonusers existed were the several disadvantaged groups and inmates of correctional facilities. The group "economically disadvantaged and institutionalized" had the greatest difference, by far. Since many of the inmates of correctional facilities are also among the disadvantaged, the data tend to support the hypothesis that among the disadvantaged there is a substantial lack of reading skill and this lack corresponds with a low interest in traditional library services, and therefore nonuse of many of the projects.

Users and nonusers were also asked what kinds of information interested them. They were asked to indicate their level of interest in several topics. The results, for selected topics, are shown in table A–17. Two kinds of data are contained in the table. One indicates the differences across clientele groups, either for users or nonusers. The other allows for a comparison of users and nonusers.

There was remarkable agreement in the data for users and nonusers. In the 160 comparisons that exist in table A–17, there are only five cases showing substantial differences. These are: (1) and (2) the Spanish-speaking nonuser interest in home and child care information, (3) the economically disadvantaged black and white nonuser interest in job information, (4) the hospitalized and nursing home user interest in health information, and (5) the economically disadvantaged, institutionalized, and handicapped user interest in child-care information.

Some of the topics in which there was a considerable interest, across many clientele groups, were job information, health information, hobbies, and ethnic materials.

The patterns within the clientele groups are perhaps most interesting. Certain groups such as economically disadvantaged blacks, inmates, and residents of training schools tended to express high-interest levels in many topic areas. Other groups, such as American Indians, migrants, and persons in nursing homes, consistently expressed low interest in almost all areas. As indicated in table A–17, each group has a unique interest profile, although some groups have similar profiles. We were struck by the relatively low interest in any topic within any one group. This is made even more dramatic by table A–18 which summarizes interests of users and nonusers without reference to group membership. The highest percent expressing interest among users was 21.1 percent interested in ethnic materials, and among nonusers the 24.8 percent expressing interest in hobbies.

Table A-17 Percentage of Special Clientele Expressing Interest in Selected Topic Areas

Type of material	Special clientele group (percent*)															
	Economically disadvantaged blacks		Economically disadvantaged whites		Spanish speaking		American Indians		Migrants		Persons in nursing homes		Persons in training schools		Inmates	
	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non
Job information	29	27	7	1	39	25	0	11	10	25	0	0	41	40	[illegible]	23
Health information	33	25	13	3	22	36	6	3	19	27	0	8	26	22	[illegible]	34
Consumer education	26	19	6	1	6	11	0	4	2	8	3	2	23	16	14	39
Hobbies	25	24	17	7	11	28	6	17	29	24	5	2	40	35	15	30
Auto repair	7	13	1	0	6	41	0	8	24	8	0	2	22	22	9	31
Home repair	8	14	4	0	*0	*23	0	8	12	10	0	2	9	20	11	25
Ethnic history of arts	37	20	7	0	22	23	12	8	26	8	0	0	23	28	42	34
Child care	19	17	7	0	*0	*26	0	14	12	27	0	0	31	32	12	14
English language instruction	28	[illegible]	10	0	28	25	0	11	12	16	0	0	22	22	24	34
Easy to read adult books	19	14	8	4	6	17	6	6	17	33	6	6	20	23	17	19

* See text.

Table A-17 Percentage of Special Clientele Expressing Interest in Selected Topic Areas—Continued

Type of material	Physically handicapped		Economically disadvantaged black/white		Other combined disadvantaged		Persons in hospitals nursing homes		Hospital nursing home handicapped aged		Institutionalized and handicapped		Economically disadvantaged institutionalized and handicapped		All others	
	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non	Users	Non
Job information	13	20	*4	*15	8	15	5	8	0	3	17	14	0	0	21	21
Health information	14	14	9	15	17	15	*20	*0	20	3	19	15	22	20	24	23
Consumer education	13	6	2	5	9	6	10	0	0	5	7	7	0	8	16	16
Hobbies	11	32	14	24	28	28	10	4	17	13	18	19	33	28	33	32
Auto repair	6	5	4	12	5	8	0	0	0	0	10	10	0	8	14	11
Home repair	16	9	4	14	5	7	0	0	3	3	3	9	11	0	15	16
Ethnic history or arts	17	8	12	17	16	13	25	12	7	3	10	10	11	0	30	17
Child care	8	3	4	12	9	13	0	4	3	0	2	4	*44	*8	16	17
English language instruction	6	9	5	8	10	11	10	0	0	0	2	6	0	4	15	13
Easy-to-read adult books	16	23	2	6	13	9	10	0	23	5	17	17	22	8	17	16

Table A-18 Comparison of Users and Nonusers: Selected Topical Areas of Interest

Topical area	Percent expressing interest	
	Users	Nonusers
Job information	16.2	20.0
Health information	19.1	18.3
Consumer education	9.9	11.8
Hobbies	19.8	24.8
Auto repair	7.6	10.6
Home repair	6.6	11.8
Ethnic history or arts	21.1	14.9
Child care	10.3	13.8
English language instruction	11.4	10.3
Easy-to-read adult books	14.1	13.9

In addition to the direct questions about needs, needs can be inferred from certain other questions asked. Users were asked how the projects could be improved, either for their own use, or the use of the community. Their responses are shown in table A–19 which also includes the inferred need. The two cases in which there was a significantly high response were the first two: Provide materials that are more interesting, and provide materials on specific topics. While the needs implied by these statements are general, they suggest that even the users sometimes perceive a lack of relevance in the materials provided.

Table A–19 Users' Suggestions for Improving Projects and Needs Inferred From the Suggestions

Suggestion	Corresponding need code	Number reporting	Percentage
Provide materials that are more interesting	(a)	296	22.5
Provide materials on specific topics	(a)	274	20.9
Where applicable, have bilingual librarians	26	31	2.4
Where applicable, have bilingual materials	12	42	3.2
Keep facility open at hours that are more convenient	5	161	12.3
Have activities such as story hours, parties	2	148	11.3
Conduct lectures or classes in (topic)________	(a)	148	11.3
Publicize the project more widely	29	204	15.5
Make the project more accessible by:			
Adding a bookmobile	6	102	7.8
Using other means of transporting materials to users	4	35	2.7
Transporting users to the facility	4	64	4.9
Adding facilities	6	74	5.6
Locating the facility more conveniently	6	41	3.1
Make the facilities more comfortable and usable	6	93	7.1

[a] These correspond to several need codes.

IV. Services Required To Satisfy User Needs

COMPARISON OF NEEDS AND PROGRAMS

In table A-14 we presented the number of Form P and Form L respondents reporting that very important or moderately important needs were met either "well" or "moderately well," or "barely" or "not" met. Table A-14 is arranged by need. In table A-20, however, we have rearranged the assessment of the degree to which needs are met to indicate selected special clientele groups, indicating the percentage of Form P respondents reporting that these needs were "met very well" or were met "not at all" or only "barely." It is readily apparent from table A 20 that the number of important or moderately important needs that are not met or barely met is far higher than those that were met, according to Form P respondents, for all special clienteles with only two exceptions: Inmates of correctional facilities, and the physically handicapped. Thus, from the foregoing, and from examination of table A-14, it appears that more of the important needs are not being met or are barely being met than are being met moderately well or very well.

PROGRAM DEFICIENCIES

It would appear that more effort should be given to determining the most important needs of user and nonuser groups and devising means of satisfying them. There can be little justification for expending major amounts of project funds and resources on needs that are not seen by members of special clienteles as important when very important or moderately important needs are not being met, as shown by table A–20. It may be noted from table A–11 that only 1 percent reported determining needs by using direct interviews with target group members. Although 18 percent of the respondents state that they used interviews with target group spokesmen, there is little evidence to support the notion that spokesmen speak fully and accurately for the special clienteles; indeed, there is more than a little evidence to the contrary. There is reason to suspect that some spokesmen may have been co-opted by the agencies to whom they speak, and may not be in touch with the needs of their constituencies.

On the basis of data collected during the two questionnaire surveys and the site visits, it is evident that not only are there deficiencies in existing programs, but the number of programs is deficient. LSCA funds have not been made available to all locations, and the number of projects that have not been funded is unknown but probably larger than the number that have been funded. Data gathered during site visits indicate that in urban areas alone the number of programs that have not been funded may be as large as the number of programs that are or have been funded. To attempt to decide how special projects might be funded or who should fund them is not in the province of this study, but it is clear that many projects will not be funded in the foreseeable future unless more LSCA funds are forthcoming.

The exact amount of money from all sources available to all public libraries in the Nation is not known. However, several estimates of the amount of money being provided by the Federal Government have

Table A–20 Assessment by Form P Respondents, of Degree To Which Needs Are Met, by Selected Clientele Groups

Special clientele	Percent moderately important needs or important needs are met very well	Percent moderately important or important needs are not met or barely met
Blacks	23	30
Whites	16	39
Spanish	27	69
Migrants	16.7	22
Hospital, etc.	5	50
Training school	15.5	31
Nursing homes	16	40
Inmates of correctional facilities	64	36
Physically handicapped	18	14
Aged	14.8	18.5

indicated that the percentage the Federal Government supplies must be less than 10 percent of the total funds available to public libraries. Therefore, it is obvious that the percentage of the operating budget of all public libraries in the United States that is expended for programs for special clienteles is very small. It would seem safe to say that funds targeted toward all special clienteles could not possibly exceed more than 5 or 6 percent of the total being expended by public libraries in the United States; one cannot expect drastic changes from such a small effort.

In evaluating LSCA projects, it would be useful to know what percentage of the economically disadvantaged or other special clienteles are actually receiving library services as a result of LSCA. Since so many projects did not have accurate figures on clientele size, there is no way to determine that figure. That is an obvious deficiency. One question in the individual project (Q–2) survey asked how many people used the project per month. The response to that question was so low that it was not useful in analyzing the extent to which projects really reach their target clienteles. (The lack of good data was borne out in our site visit experience.) Too few libraries really know how many people use the library or use individual projects. Until such data become available, it will be difficult to assess, other than subjectively, the extent to which projects really reach all target groups.

FUNDING REQUIREMENTS

Using the figures derived from our State survey, $15 million per year (fiscal year 1972 dollars) would be required in the immediate future just to continue the efforts directed toward special clientele that existed during the time of the survey. (It should be noted, of course, that this figure would, of necessity, need to be adjusted upward by a factor reflecting the cost of living increase since June of 1972.) The maintenance-of-effort clause of LSCA* undoubtedly has had an effect on the overall amount of State and local money being applied to special clienteles. It can be argued that the substitution of State and local funds for Federal funds would thereby free additional funds to go into new projects, resulting in a "snowball" effect. There is no question that Federal funds have served as seed money and have brought additional State and local funds into some areas where they might not have otherwise been available, but there is a vast difference between seed money and a snowball effect. If a formula were developed calling for maintenance of effort on a graduated basis, with some finite and reasonably short period of time over which an individual project could receive Federal funds, much more of a snowball effect might be observed. That is, the State or local sources would be prompted to take over sooner than they seem to do now in many instances. A reasonable time period might be 3 years, for example, which would call for an increase in State funds of whatever percentage necessary to make the project completely supported by State or local funds within a 3-year period. For example, if the project were initiated with 10 percent State and local support and 90 percent Federal support, for the second year the State and local contribution would be 30 percent and Federal 70 percent; for the third year, State and local support would be 60 percent and the Federal share 40 percent At the end of the third year the project would become 100 percent State and locally supported. If maintenance of effort were required for 2 years beyond that point, the likelihood of successful projects continuing for many years would be quite high. Unsuccessful projects would terminate and the maintenance of effort funds could be shifted into those projects that showed signs of being successful.

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*Note that this applied only to projects serving handicapped and institutionalized. Readers are referred to the act itself for an explanation of this clause.

A reasonably constructed funding requirement would have a time schedule of ever-increasing State and local support, a flexible schedule requiring maintenance of effort over some period of time, and an evaluation factor to allow for projects evaluated as unsuccesful to be terminated at the end of some period of time: e.g., perhaps a minimum of 2 years. An interesting observation concerning project length was made by many project directors who felt that Federal funding ought to be for more than just a short period of time.

There is no evidence to suggest that an increase in LSCA funds directed to special clienteles would result in a proportional increase of impact in that area. Without planning on a nationwide—or at minimum a multistate or regional—basis, overall impact is apt to be much less than the maximum possible. Perhaps it is one of Parkinson's laws that states that "it is as easy to waste large sums of money on poorly planned projects as it is to waste small sums."

Based on figures supplied by the State library agencies, the average amount of LSCA money available in fiscal 1972 for a project was $16,347. However, there is considerable variance from project to project. We are tempted to speculate that LSCA funding is being fragmented so much that the potential impact on problems of the special clienteles is not likely to be great and that projects are not likely to satisfy, to any great extent, the needs of these clientele for library and information services. Therefore, if one wishes to increase the funding to a high-impact level (and we cannot suggest what figure that might be), either LSCA funding will have to increase drastically, or fewer projects should be funded, thus allowing more support for each project.

Long-term funding requirements are even more severe since the U.S. population while not increasing at the rate experienced in previous decades, is still growing. The rate of increase among some special clienteles, e.g., Spanish-speaking, disadvantaged Blacks, disadvantaged whites, is higher than the rate of increase for the general population. It is intriguing to ask questions such as the following: "For how many years must the projects for the special clienteles be continued? Is 10 years a sufficient period for the impact of LSCA projects to be felt? Will the lot of the special clienteles be significantly improved (or improved at all) in that length of time?" If one accepts standard library ethos, then a well-conceived, successful project will indeed have a measurable impact on the target group within that length of time. It is evident that the answers to these questions can be determined only by long-term study projects set up to evaluate selected library programs. If the full amount authorized for LSCA Title I ($75 million per year) were available for 10 years, and if selected projects were evaluated during that time, then reliable answers ought to be available.

CONCLUSION

The public library in the United States has changed greatly in recent years, and the changes taking place definitely have an effect on service to special clienteles. The population of the United States is much more mobile now than it was, for example, just 30 years ago. Especially in urban areas, population has increased due to an influx from other areas. However, all too frequently, public libraries still serve mainly their old clientele. Reading needs and patterns among the potential users have changed markedly, but most libraries have not changed. The LSCA projects directed toward special clienteles are frequently in the very forefront of the changes that the more progressive libraries are making. The real challenge is to attract and serve people who have previously not been users, while at the same time maintaining and even enhancing the number and quality of services provided to the more traditional clientele. In order that the educational and informational role of the library be realized to the greatest extent, the importance of getting people to the library or the library to the people must be stressed. This calls for a new outlook in the public library, rooted in the awareness that different kinds of people may require different kinds of information and education. Such an outlook dictates an active program of reaching out to potential users, and guiding and stimulating them in their use of all library facilities. LSCA projects directed toward special clienteles are representative of this new outlook in many cases.

It is apparent that libraries will have to change their emphasis on printed materials if they are sincere in a desire to meet the library needs of the special clienteles. Members of these groups will never be as willing to accept and use printed materials as are the traditional users of libraries: i.e., the more affluent, the better educated, white, middle class who have been the typical library users for many years. But as librarians become more aware of the need to change, libraries will require a new breed of librarian. Library schools must emphasize psychological and personal characteristics in the selection and training of library students. Although this is not an area to which a great deal of attention has been paid in the past, the striking success of LSCA projects run by dynamic, personally concerned, eloquent librarians who can identify with the special clientele being served makes it evident that this type of person will be in great demand in libraries in the future, if libraries are to continue to serve special clienteles or to extend service to special clientele groups. Whether LSCA itself continues or not, special clienteles are a force that must be reckoned with in the future insofar as libraries are concerned, for without their support, we believe, the public library may well disappear, especially in some urban areas.

In many States it was evident that were Federal funds not available, there would be no projects whatsoever for special clienteles. Indeed, in one State plan that was examined the statement was made that, while there were special clienteles in the State, no projects need be directed toward them because the State intended to give service to all of its citizens on an equal basis! That naive attitude represents—all too frequently—the lack of knowledge and concern that exists at many levels of State and local government. Library services for special clienteles are not the same as the traditional, we-await-the-knowledgeable-user, attitude provides. Special clienteles frequently need to be educated to become users, and persuaded that the library has something of value for them. LSCA funds have been a critical factor in projects for special clienteles, and they have provided the bulk of the funds being used for innovative projects; without LSCA (or a real substitute) there would be little or no innovation—in short, a rather static even moribund public library in the United States.

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